PIONEER
The Art of Entertainment

Service Manual

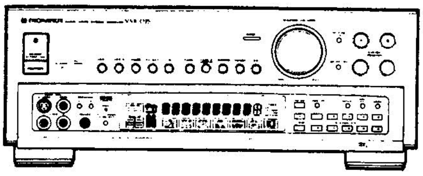
Illustration shows model VSX−D2S.

ORDER NO.
ARP2813

AUDIO/VIDEO STEREO RECEIVER

VSX-D2S

VSX-97

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	VSX−D2S	VSX−97		
KU	○	—	AC120V	—
KC	○	—	AC120V	—
KU/CA	—	○	AC120V	—
SD	○	—	AC110V/120−127V/220V/240V	With the voltage selector

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols ⊟ (fast operating fuse) and/or ⊠ (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible ⊟ (fusible de type rapide) et/ou ⊠ (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

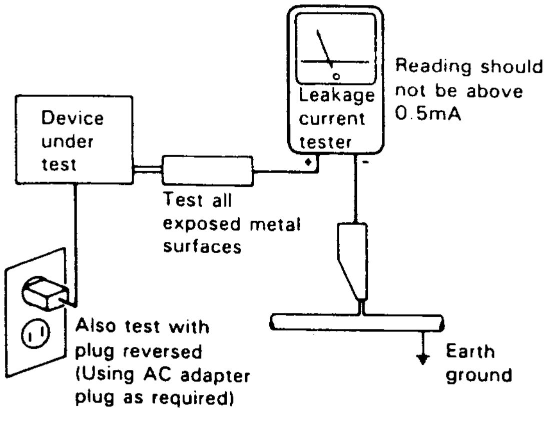
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. DISASSEMBLY

2.1 BONNET CASE

1. Remove Screw ① (8 screws) and Collar ② (8 pieces). Remove Side board L and Side board R. (VSX−97 only) [Remove Screw Ⓐ (4 screws). (VSX−D2S)]
2. Remove Screw ③ (7 screws).

2.2 HEAT SINK SECTION

1. Remove Screw ④ (2 screws) and Holder.
2. Remove Screw ⑤ (5 screws).
3. Using a nipper or similar tool, cut the wire clips fastening the parallel jumper wires. When reinstalling the Heat sink in its original location, arrange the jumper wires in their original position and fasten them with wire clips.

2.3 FRONT PANEL BASE SECTION

1. Remove the VOLUME knob and Screw ⑥.
   (The knob can be removed by pulling it toward yourself.)
2. Remove Screw ⑦ (5 screws) and Screw ⑧ (5 screws).
3. Pull the front panel toward yourself while pushing down on the hook (Section Ⓑ) with a screwdriver or similar tool.

2.4 SHIELD CASE

1. Remove Screw ⑨ (4 screws).
2. Remove Screw ⑩ (3 screws) from the rear panel side.

2.5 SUB HEAT SINK SECTION (15 REG ASSY AND 5 REG ASSY)

1. Remove Screw ⑪ (1 screw).

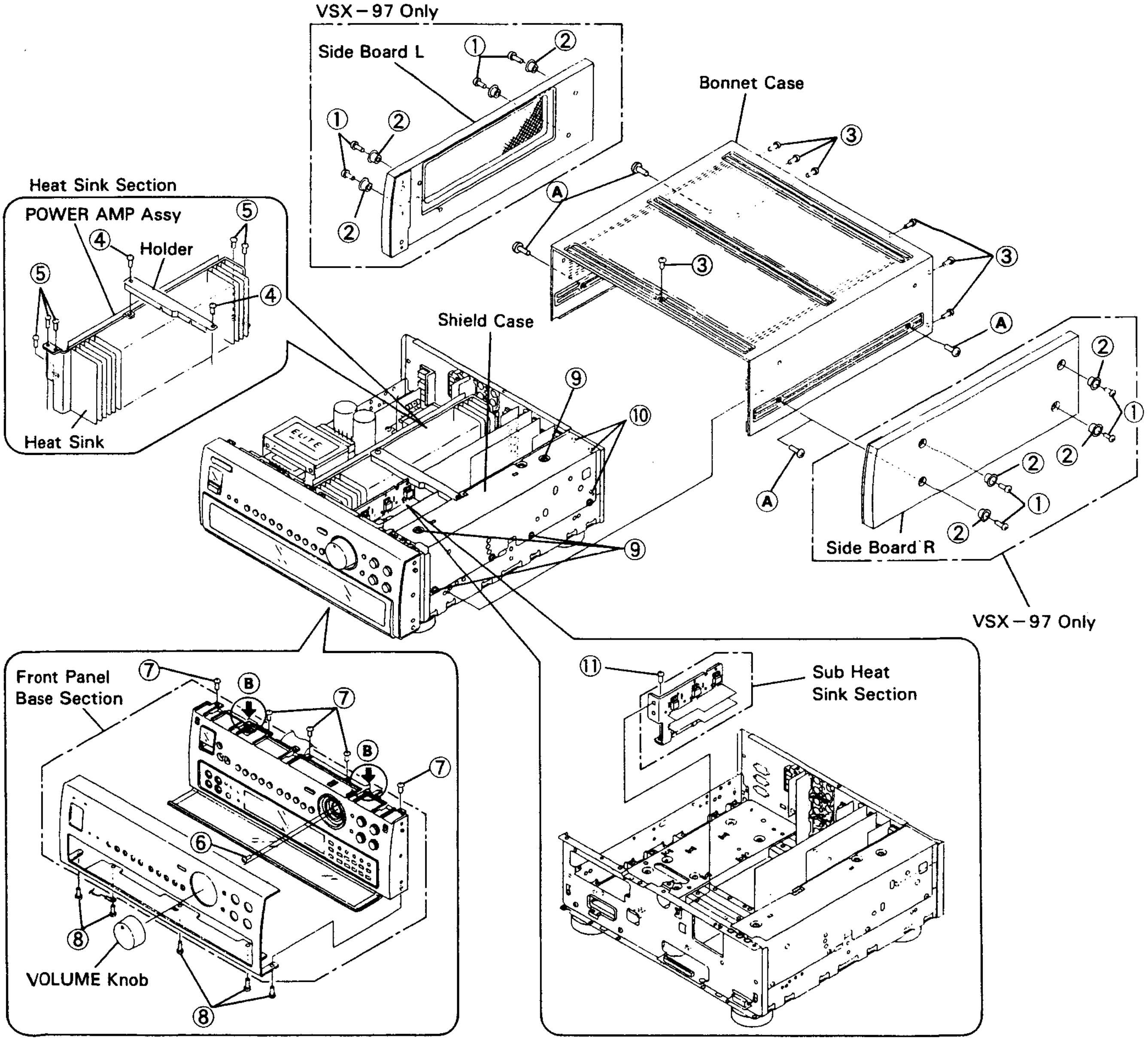

VSX−97 Only
Side Board L
①
②
①
②
②
Bonnet Case
③
Ⓐ
③
③
Ⓐ
Heat Sink Section
POWER AMP Assy
⑤
④
Holder
⑤
④
Heat Sink
Shield Case
⑨
⑩
⑨
Ⓐ
②
①
②
②
①
②
Side Board R
VSX−97 Only
Front Panel
Base Section
⑦
Ⓑ
⑦
Ⓑ
⑦
⑥
⑧
VOLUME Knob
⑧
⑪
Sub Heat
Sink Section

Fig. 2−1 Disassembly

3. PCB ASSY DIAGNOSIS

The following PCB assy voltage check can be performed without removing the various connectors.

NOTE:

Switch the power off when removing each PCB assy. In addition, when performing a check of a dismantled PCB assy with the power on, make sure you do not touch the chassis or base.

3.1 POWER AMP ASSY

1. Remove the Heat sink section as described above in "2. DISASSEMBLY".
2. The Heat sink section is fixed to the chassis with screws as shown in Fig. 3−1.

3.2 VIDEO FUNCTION ASSY

1. Remove the 3 screws fixing the VIDEO FUNCTION assy from the rear panel side.
2. Once the VIDEO FUNCTION assy has been removed, the VIDEO FUNCTION assy and the S. VIDEO FUNCTION assy can be checked.

NOTE:

When checking the VIDEO FUNCTION assy, keep in mind that the VIDEO FUNCTION assy pin jack and chassis are connected to the ground with lead wires.

3.3 A/V FUNCTION ASSY

1. Remove the 2 screws fixing the A/V FUNCTION assy from the rear panel side.
2. Once the A/V FUNCTION assy has been removed, the A/V FUNCTION assy and the AUDIO FUNCTION assy can be checked.

3.4 SUB HEAT SINK SECTION (15 REG ASSY AND 5 REG ASSY)

1. Remove the Sub heat section as described in "2. DISASSEMBLY".
2. Once the Sub heat section has been removed, the 15 REG assy, the 5 REG assy, and the VR assy can be checked.

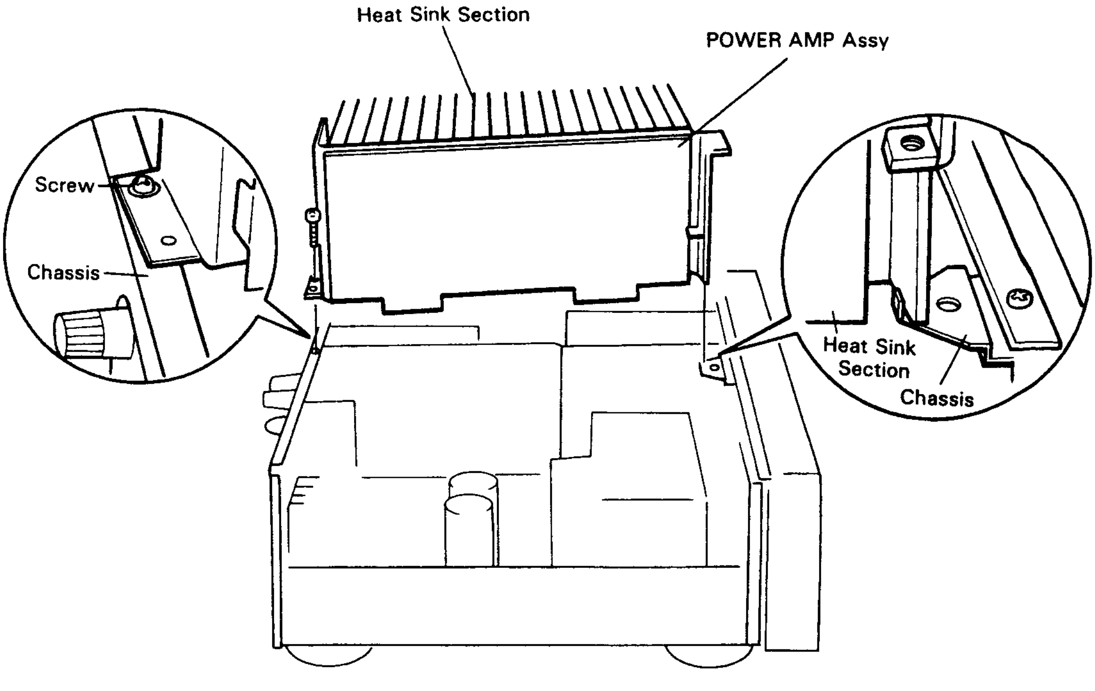
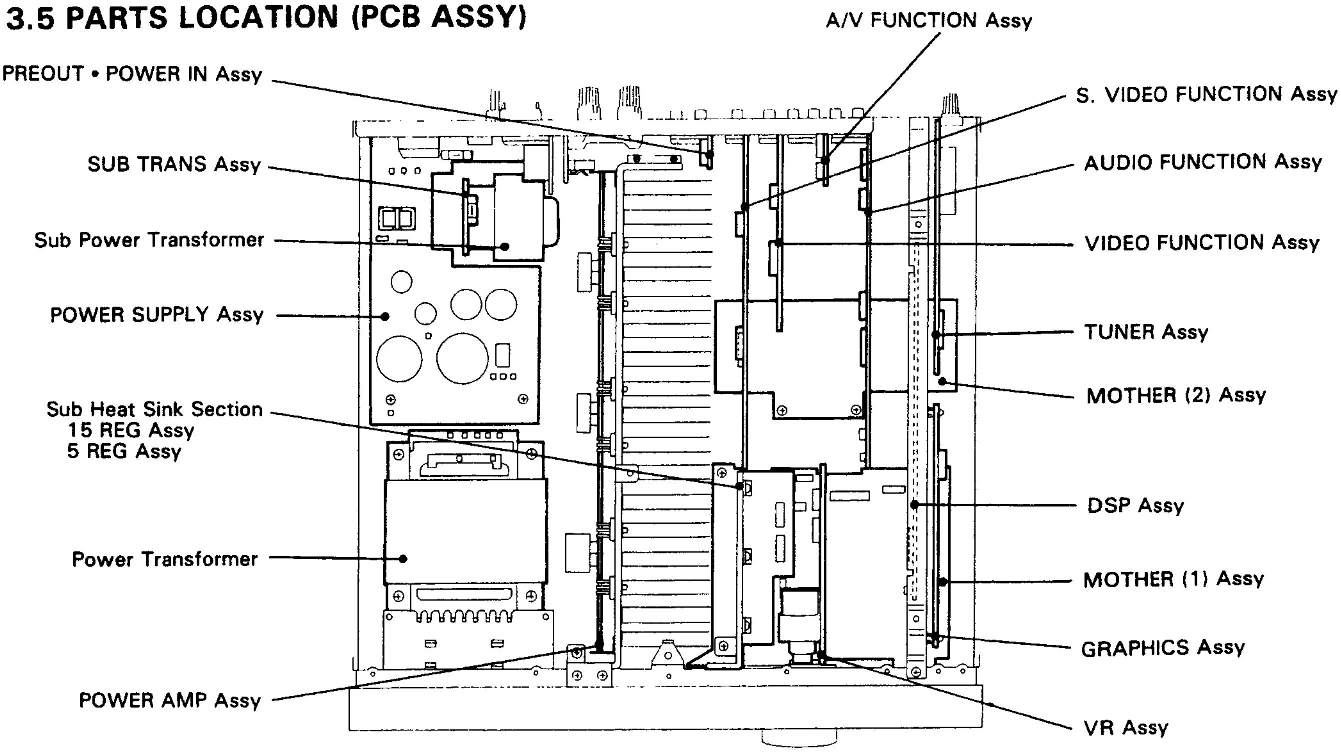


Fig. 3−1

3.5 PARTS LOCATION (PCB ASSY)


PREOUT • POWER IN Assy
SUB TRANS Assy
Sub Power Transformer
POWER SUPPLY Assy
Sub Heat Sink Section
15 REG Assy
5 REG Assy
Power Transformer
POWER AMP Assy
A/V FUNCTION Assy
S. VIDEO FUNCTION Assy
AUDIO FUNCTION Assy
VIDEO FUNCTION Assy
TUNER Assy
MOTHER (2) Assy
DSP Assy
MOTHER (1) Assy
GRAPHICS Assy
VR Assy

4. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

4.1 EXTERIOR (1/3) (VSX-D2S/KU AND VSX-97/KU/CA)

Parts List

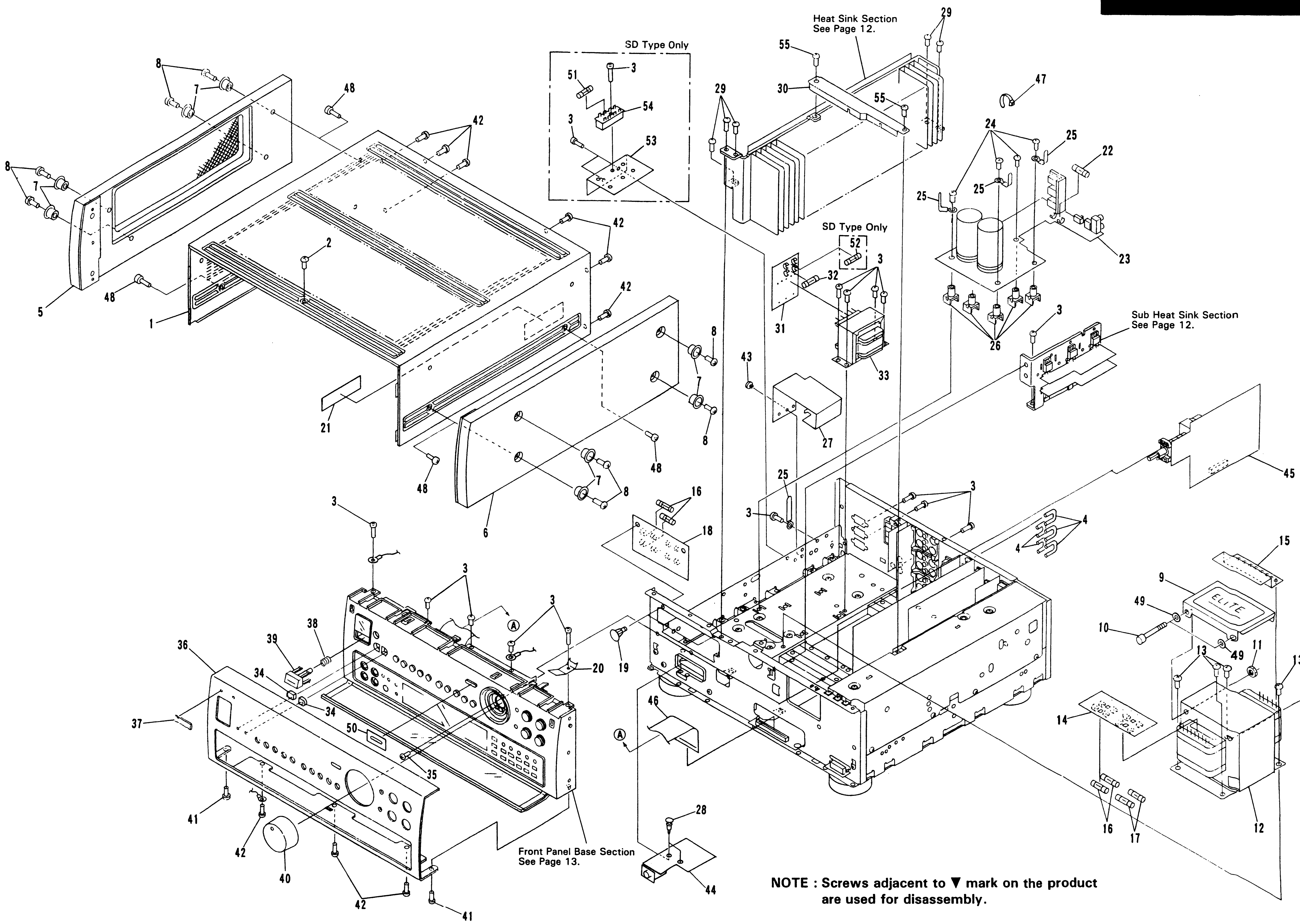
Mark	No.	Description	Parts No.
	1	BONNET (VSX-D2S)	ANE1453
	1	BONNET (VSX-97)	ANE1454
	2	SCREW	FBT40P080FZK
	3	SCREW	ABA-298
	4	PLUG	AKM1061
	5	SIDE BOARD L (VSX-97 only)	AMS1060
	6	SIDE BOARD R (VSX-97 only)	AMS1061
	7	WOOD COLLOR (VSX-97 only)	AEC1165
	8	SCREW (VSX-97 only)	ABA1086
NSP	9	COVER (VSX-97 only)	ANK1254
	10	SCREW (VSX-97 only)	ABA1197
	11	NUT	ABN1023
⚠	12	POWER TRANSFORMER (AC120V) (VSX-D2S)	ATS1497
⚠	12	POWER TRANSFORMER (AC120V) (VSX-97)	ATS1499
	13	SCREW	ABA1053
NSP	14	TRANS ASSY (VSX-D2S only)	AWZ5034
	15	BARRIER B (VSX-D2S only)	AEC1544
⚠	16	FUSE (1.25A/125V, FU5, FU6)	AEK-120
⚠	17	FUSE (6.3A/125V, FU3, FU4)	AEK-309
NSP	18	TRANS ASSY (VSX-97 only)	AWZ5016
NSP	19	SPACER (VSX-97 only)	AEC1065
NSP	20	EARTH PLATE	ANK1257

Mark	No.	Description	Parts No.
	21	65 LABEL	ORW1069
⚠	22	FUSE (8A/125V, FU1)	AEK1002
	23	POWER SUPPLY ASSY (VSX-D2S)	AWZ5029
	23	POWER SUPPLY ASSY (VSX-97)	AWZ5245
	24	SCREW	ABA1018
	25	BINDER	AEP-215
NSP	26	PCB MOLD	AMR1525
	27	BARRIER A	AEC1527
	28	NYLON RIVET	AEC1160
	29	SCREW	ABA1052
NSP	30	HOLDER (VSX-D2S)	ANG1853
NSP	30	HOLDER (VSX-97)	ANG1854
NSP	31	SUB TRANS ASSY	AWZ5035
⚠	32	FUSE (1A/125V, FU7)	AEK-119
⚠	33	POWER TRANSFORMER (AC110-127V/220-240V)	ATT1241
	34	LED LENS	PNW2019
	35	SCREW	VMZ30P060FMC

Mark	No.	Description	Parts No.
	36	FRONT PANEL (VSX-D2S)	ANB1572
	36	FRONT PANEL (VSX-97)	ANB1573
	37	BADGE (VSX-D2S)	AAM1058
	37	BADGE (VSX-97)	AAM1061
	38	COIL SPRING	ABH1089
	39	KNOB (POWER)	AAD2473
	40	KNOB (VOLUME)	AAB1356
	41	SCREW	BPZ30P080FZK
	42	SCREW	ABA1006
	43	NYLON RIVET	AEP-236
NSP	44	HEADPHONE ASSY	AWZ5026
	45	VR ASSY	AWZ5036
	46	FLEXIBLE FLAT CABLE (J8001)	ADD1099
	47	BINDER	AEC-093
	48	SCREW (VSX-D2S only)	FBT40P080FZK
	49	WASHER (VSX-97 only)	WA45F100K080
NSP	50	SHEET	AED1158
	55	SCREW	CBZ30P080FZK

NOTE: Part number differs between VSX-D2S/KC, SD and KU.

Mark	No.	Symbol & Description	Part No.			Remarks
			VSX-D2S/KU	VSX-D2S/KC	VSX-D2S/SD	
⚠	12	Power transformer (AC120V)	ATS1497	ATS1497	....	
⚠	12	Power transformer (AC110V/120-127V/220V/240V)	....	....	ATS1498	
⚠	22	Fuse (8A/125V, FU1)	AEK1002	AEK1002	....	
⚠	22	Fuse (4A/125V, FU1)	....	....	AEK-125	
⚠	51	Fuse (4A/125V, FU2)	....	....	AEK-125	
⚠	17	Fuse (6.3A/125V, FU3, FU4)	AEK-309	AEK-309	AEK-127	
⚠	52	Fuse (0.5A/125V, FU8)	....	....	AEK-136	
	53	Fuse holder bracket	....	....	ANG-528	
⚠	54	Fuse holder	....	....	AKR1005	
	21	65 Label	ORW1069	....	....	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ELITE

SD Type Only

Heat Sink Section
See Page 12.

SD Type Only

Sub Heat Sink Section
See Page 12.

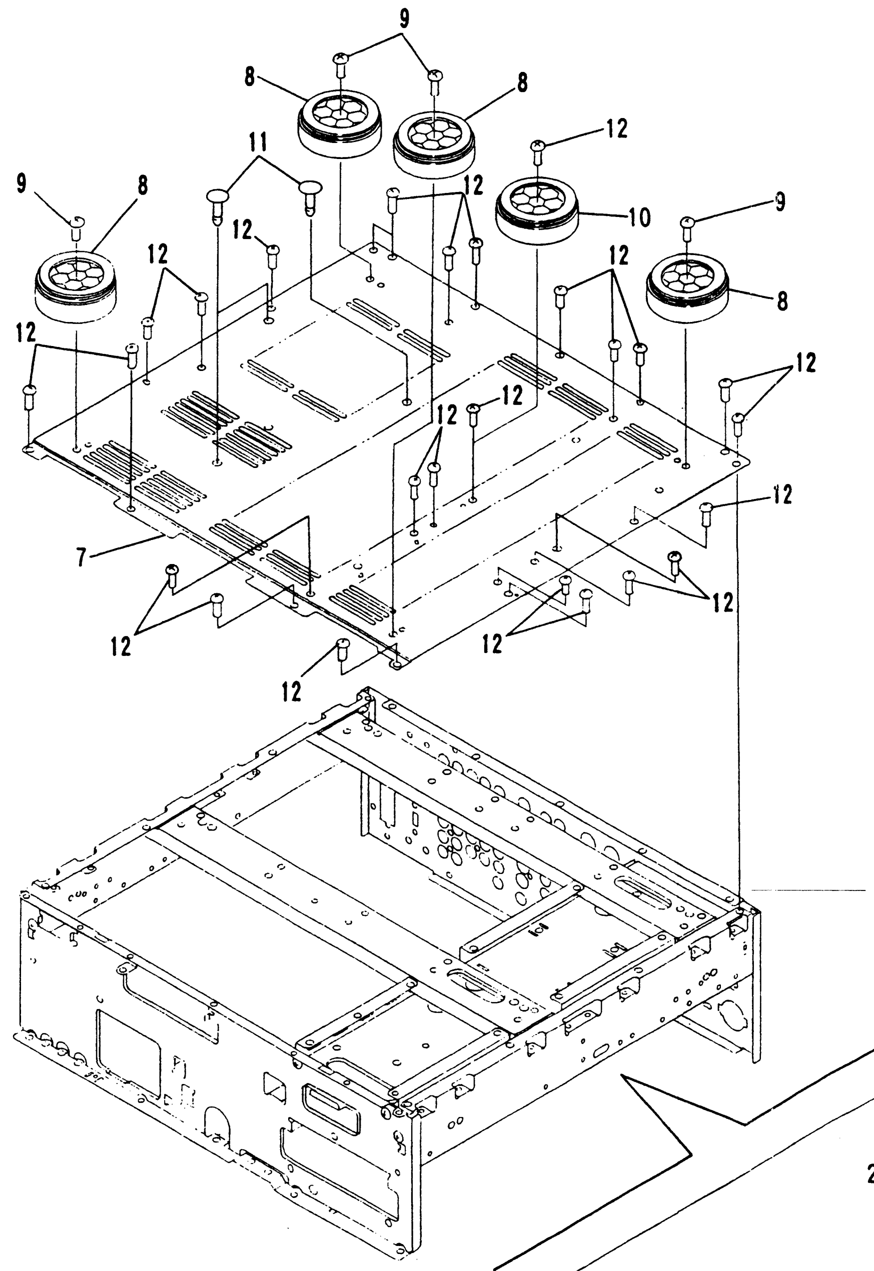
Front Panel Base Section
See Page 13.

NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.

4.2 EXTERIOR (2/3)
(VSX−D2S/KU AND VSX−97/KU/CA)

Parts List

Mark	No.	Description	Parts No.
NSP	1	FLAME (VSX−D2S)	ANA1217
NSP	1	FLAME (VSX−97)	ANA1220
NSP	2	SIDE FLAME (VSX−D2S)	ANA1218
NSP	2	SIDE FLAME (VSX−97)	ANA1219
NSP	3	PANEL STAY (VSX−D2S)	AND1059
NSP	3	PANEL STAY (VSX−97)	AND1060
NSP	4	ANGLE (VSX−D2S)	ANA1221
NSP	4	ANGLE (VSX−97)	ANA1222
	5	REAR PANEL (VSX−D2S)	ANC2105
	5	REAR PANEL (VSX−97)	ANC2107
	6	SCREW	ABA−298
NSP	7	BOTTOM PLATE (VSX−D2S)	ANF1104
NSP	7	BOTTOM PLATE (VSX−97)	ANF1105
	8	LEG ASSY	AMR1159
	9	SCREW	ABA1004
	10	LEG ASSY (VSX−97 only)	AMR1158
NSP	11	PCB SPACER	AEC1075
	12	SCREW	ABA1011
	13	WASHER	ABE1013



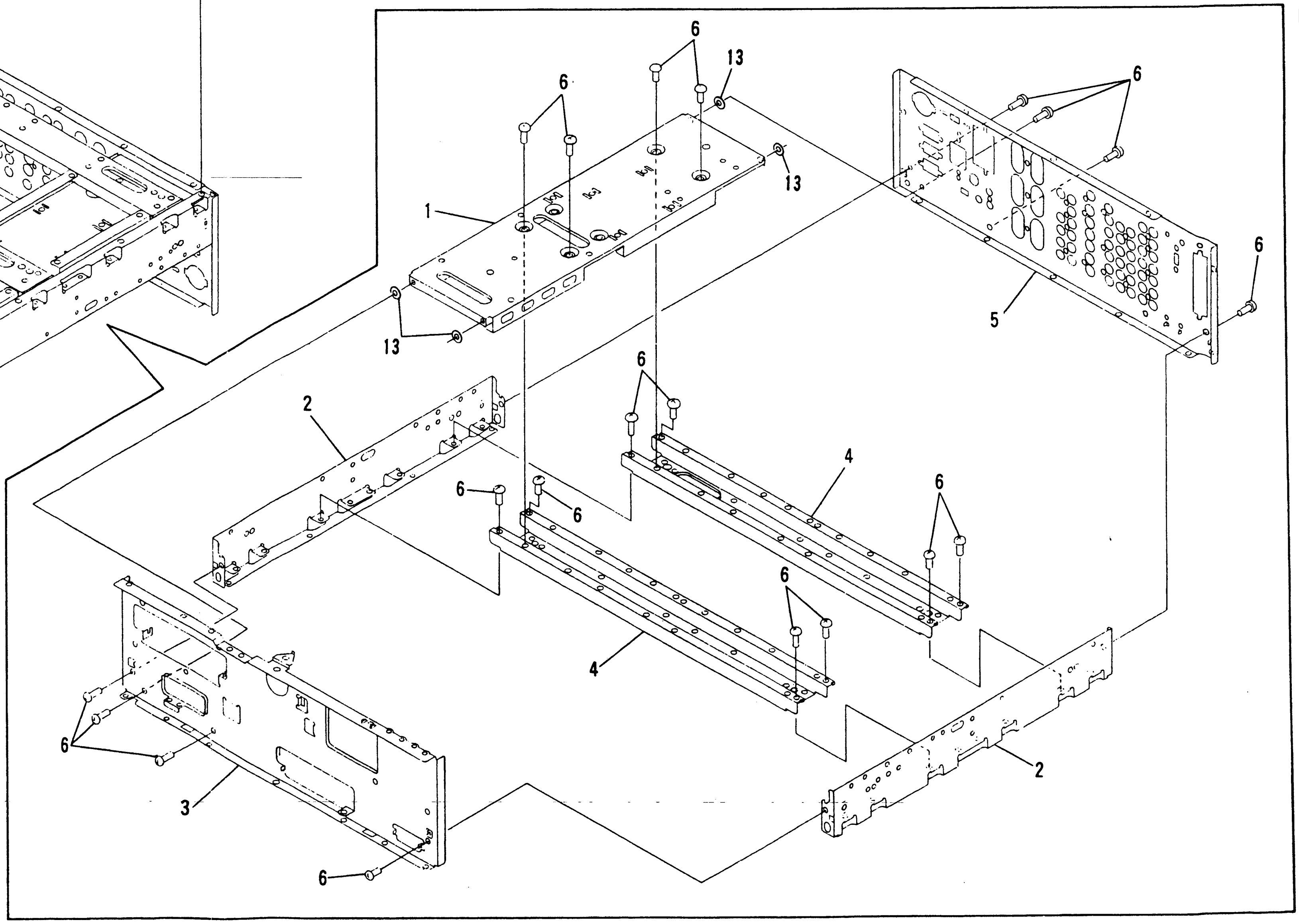
NOTE: Part number differs between VSX−D2S/KC, SD and KU.

Mark	No.	Symbol & Description	Part No.		Remarks
			VSX−D2S/KU, KC	VSX−D2S/SD	
	5	Rear panel	ANC2105	ANC2106	

4.3 EXTERIOR (3/3)
(VSX−D2S/KU AND VSX−97/KU/CA)

Parts List

Mark	No.	Description	Parts No.
	1	TUNER ASSY	AWE1160
	2	AUDIO FUNCTION ASSY (VSX−D2S)	AWZ5019
	2	AUDIO FUNCTION ASSY (VSX−97)	AWZ5246
	3	A/V FUNCTION ASSY (VSX−D2S)	AWZ5020
	3	A/V FUNCTION ASSY (VSX−97)	AWZ5247
	4	VIDEO FUNCTION ASSY (VSX−D2S)	AWZ5023
	4	VIDEO FUNCTION ASSY (VSX−97)	AWZ5102
	5	S. VIDEO FUNCTION ASSY (VSX−D2S)	AWZ5022
	5	S. VIDEO FUNCTION ASSY· (VSX−97)	AWZ5248

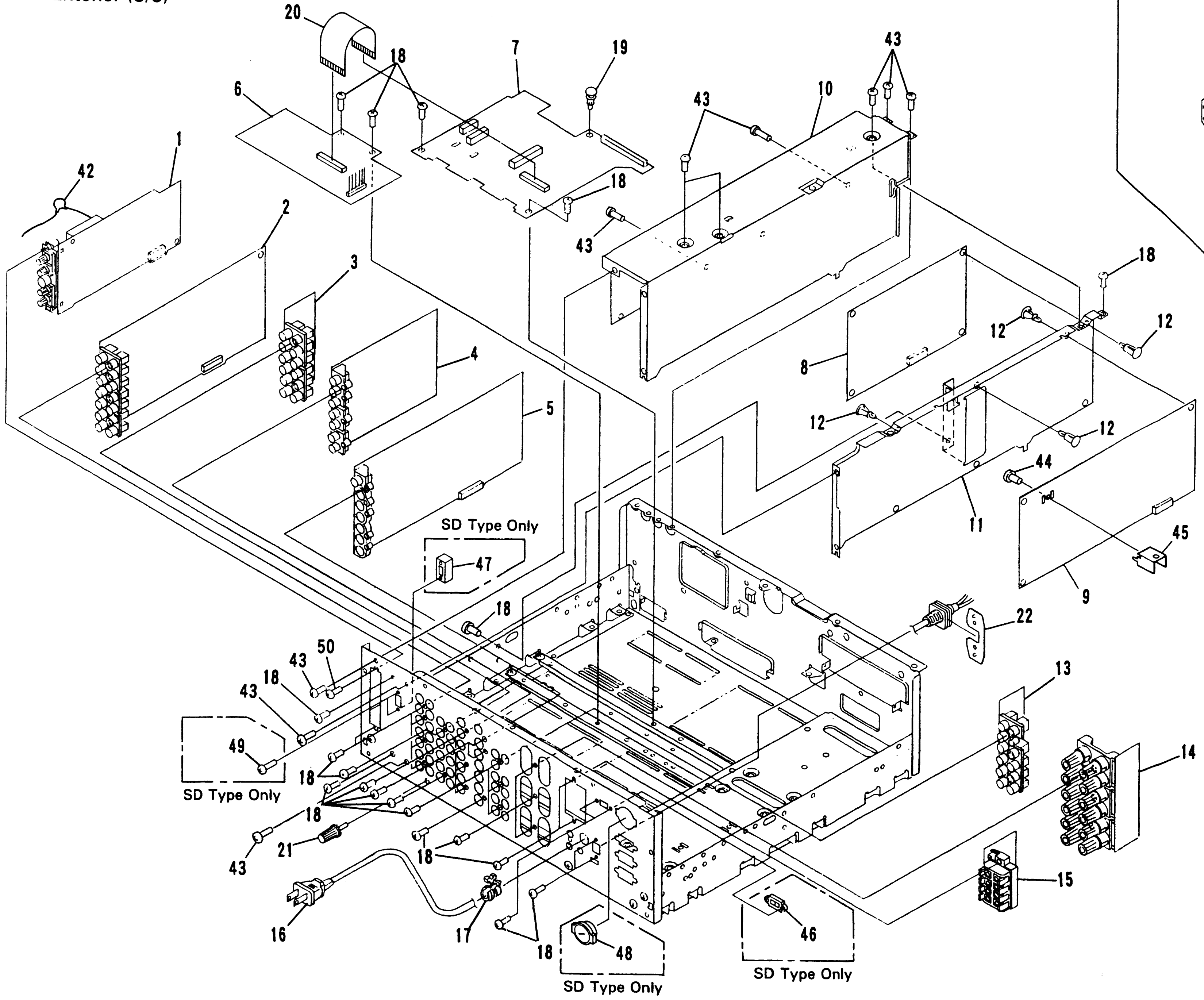


Mark	No.	Description	Parts No.
NSP	6	MOTHER (2) ASSY	AWZ5037
	7	MOTHER (1) ASSY (VSX−D2S)	AWZ5028
	7	MOTHER (1) ASSY (VSX−97)	AWZ5244
	8	GRAPHICS ASSY	AWQ1023
	9	DSP ASSY	AWX1061
NSP	10	SHIELD BOX (VSX−D2S)	ANK1252
NSP	10	SHIELD BOX (VSX−97)	ANK1253
NSP	11	SHIELD PLATE	ANK1251
	12	PCB HOLDER	AEC1534
	13	PREOUT • POWER IN ASSY	AWZ5021
NSP	14	FRONT • CENTER SP TERMINAL ASSY	AWZ5032
NSP	15	RMR−SP ASSY	AWZ5033
⚠	16	AC POWER CORD (VSX−D2S)	ADG1058
⚠	16	AC POWER CORD (VSX−97)	ADG1072
⚠	17	STRAIN RELIEF (VSX−D2S only)	AEP−113
	18	SCREW	ABA−298
	19	NYLON RIVET	AEC1160
NSP	20	FLEXIBLE FLAT CABLE	ADD1117
	21	GND TERMINAL	AKE−031
	22	AC POWER CORD SPACER (VSX−97 only)	ANG1153
	23	POWER AMP ASSY	AWZ5024
	24	PCB HOLDER	ANG1474
NSP	25	HEAT SINK (VSX−D2S)	ANH1441
NSP	25	HEAT SINK (VSX−97)	ANH1442
	26	SCREW	ABA1082
⚠	27	TRANSISTOR (Q2)	MSC3281
⚠	28	TRANSISTOR (Q5)	MSA1302
⚠	29	TRANSISTOR (Q4)	MSA1302
⚠	30	TRANSISTOR (Q1)	MSC3281
⚠	31	TRANSISTOR (Q3)	MSC3281
⚠	32	TRANSISTOR (Q6)	MSA1302
⚠	33	TRANSISTOR (Q8)	2SC4689
⚠	34	TRANSISTOR (Q10)	2SA1804
⚠	35	TRANSISTOR (Q9)	2SA1804
⚠	36	TRANSISTOR (Q7)	2SC4689
	37	MICA SHEET	AEP−313
NSP	38	SUB HEAT SINK	ANH1444
NSP	39	15 REG ASSY	AWZ5030
NSP	40	5 REG ASSY	AWZ5031
	41	6P PLUG (CN8011)	AKM1106
⚠	42	CAPACITOR (C1)	CKDYF103Z50
	43	SCREW	ABA1006
	44	SCREW	ABA1011
NSP	45	PCB HOLDER	ANG−502
	50	SCREW (GND)	ABA1047

NOTE: Part number differs between VSX−D2S/KC, SD and KU.

Mark	No.	Symbol & Description	Part No. VSX−D2S/KU	Part No. VSX−D2S/KC	Part No. VSX−D2S/SD	Remarks
NSP	14	FRONT • CENTER SP TERMINAL assy	AWZ5032	AWZ5032	AWZ5104	
⚠	16	AC power cord	ADG1058	ADG1058	ADG1051	
⚠	17	Strain relief	AEP−113	AEP−113	AEC−882	
⚠	46	Voltage selector (S1) (AC110−127V/220−240V)	....	....	AKX1004	
⚠	47	Slide switch (S2) (9k/10k)	....	....	ASH−004	
⚠	48	Voltage selector (S3) (AC110V/120−127V/220V/240V)	....	....	AKX−507	
	49	Screw	....	....	VMZ26P040FZK	

Exterior (3/3)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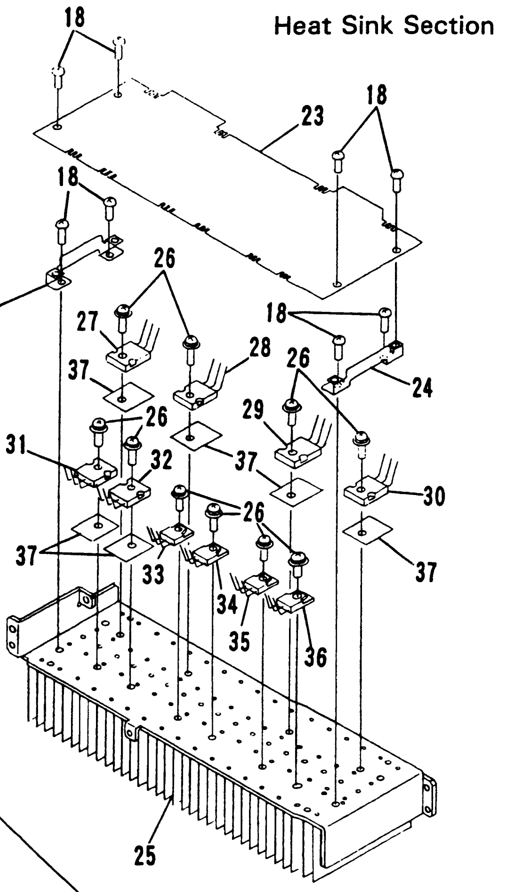
Heat Sink Section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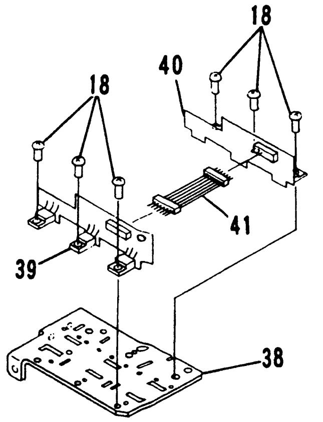
Sub Heat Sink Section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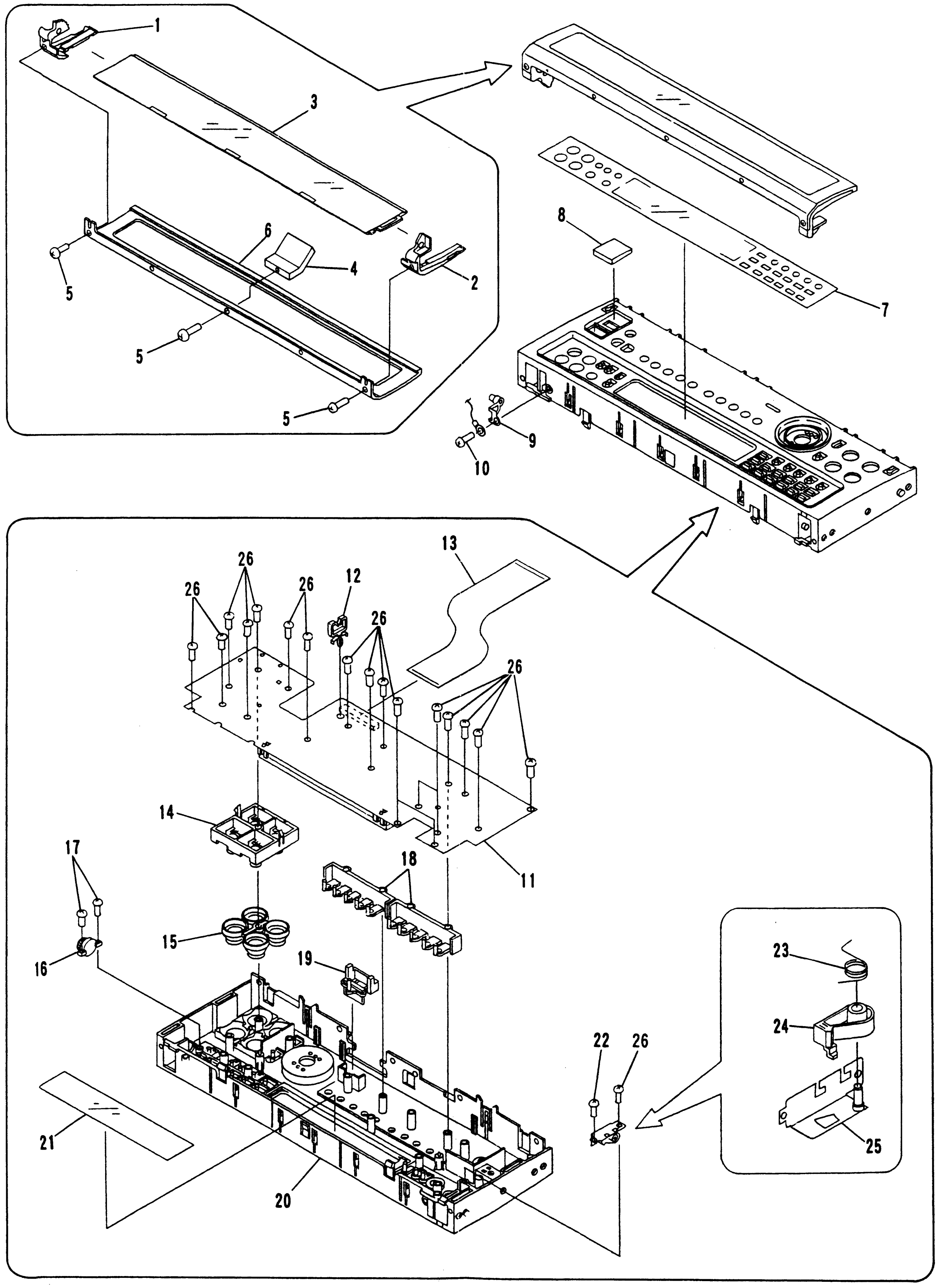
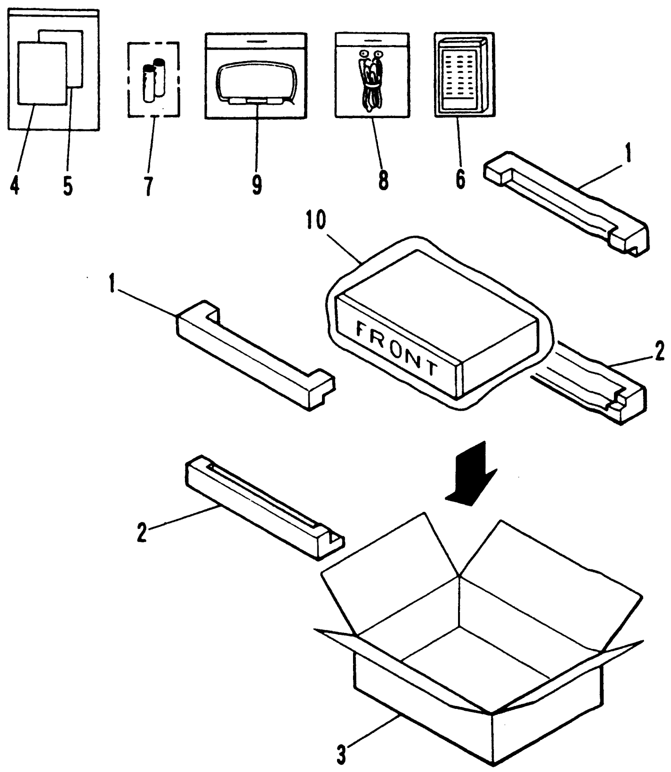
4.4 FRONT PANEL BASE SECTION (VSX-D2S/KU, KC, SD AND VSX-97/KU/CA)



Parts List

Mark	No.	Description	Parts No.
	1	DOOR HINGE R	AMR2582
	2	DOOR HINGE L	AMR2581
	3	DISPLAY PANEL	AAK2501
	4	MOLD	AMR2583
	5	SCREW	BPZ30P050FZK
	6	DOOR PANEL (VSX-D2S)	ANB1575
	6	DOOR PANEL (VSX-97)	ANB1576
	7	DISPLAY SHEET	AAK2502
	8	IR FILTER	AAK2503
	9	POCKET HOLDER ASSY	ANG1864
	10	SCREW	BPZ30P060FMC
	11	FL U-COM ASSY (VSX-D2S)	AWZ5027
	11	FL U-COM ASSY (VSX-97)	AWZ5103
NSP	12	WIRE CRIP	AEC1535
	13	FLEXIBLE FLAT CABLE (J8001)	ADD1099
	14	BUTTON A (SYSTEM SELECTOR)	AAD2471
	15	RING	AAK2499
	16	DAMPER	AXA1014
	17	SCREW	BBZ20P080FMC
	18	BUTTON (FUNCTION)	AAD2470
	19	BUTTON B (PURE LINE)	AAD2472
	20	PANEL BASE (VSX-D2S)	AMB2174
	20	PANEL BASE (VSX-97)	AMB2175
	21	FL FILTER (VSX-D2S)	AAK2500
	21	FL FILTER (VSX-97)	AAK2504
	22	SCREW	BPZ26P050FMC
	23	SPRING	ABH1092
	24	POCKET ROCK	AMR2587
	25	DOOR HOLDER ASSY	ANG1855
	26	SCREW	BPZ26P080FMC

4.5 PACKING (VSX-D2S/KU AND VSX-97/KU/CA)



Parts List

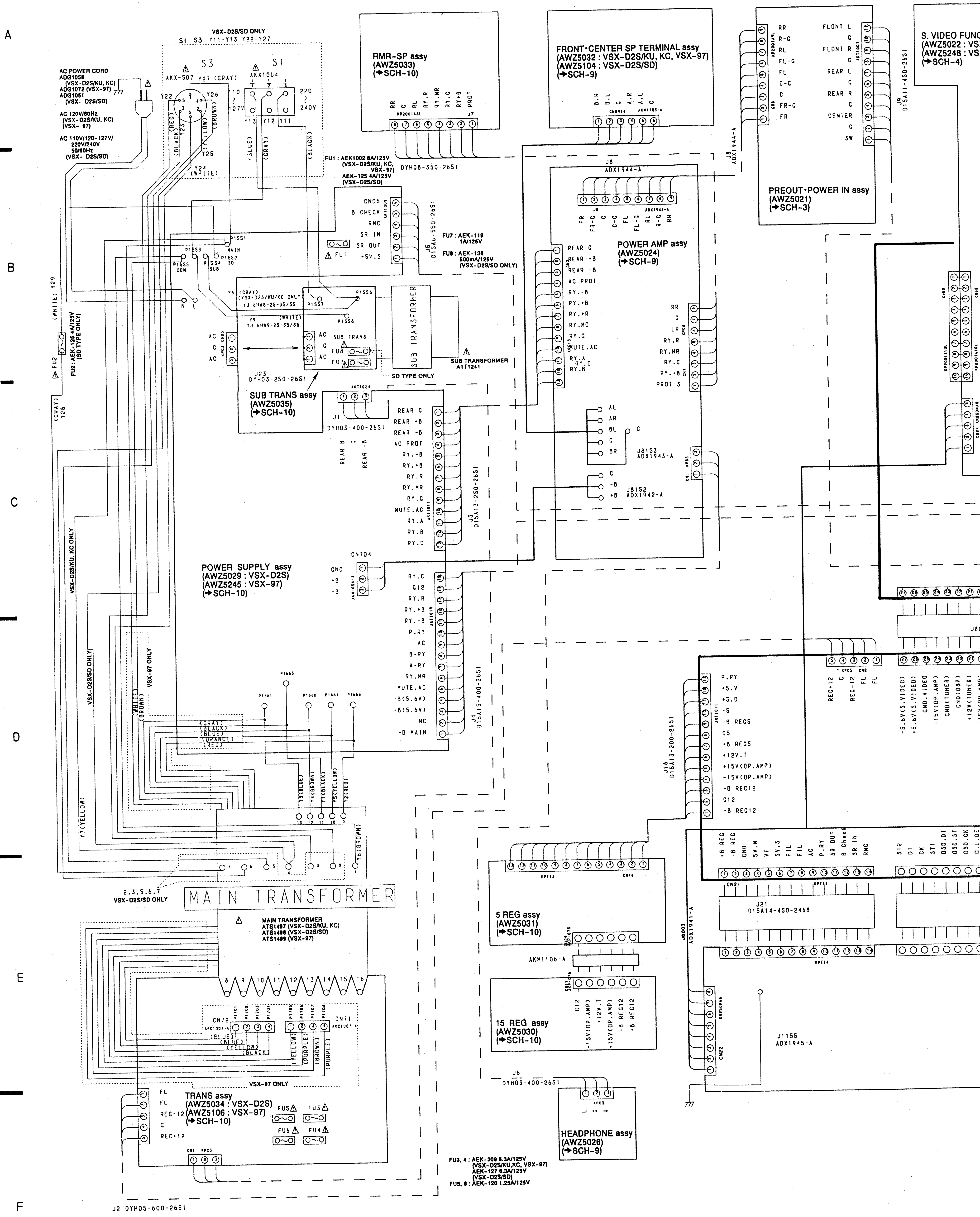
Mark	No.	Description	Parts No.
	1	TOP PAD (VSX-D2S)	AHA1614
	1	TOP PAD (VSX-97)	AHA1616
	2	BOTTOM PAD (VSX-D2S)	AHA1615
	2	BOTTOM PAD (VSX-97)	AHA1617
	3	PACKING CASE (VSX-D2S)	AHD2610
	3	PACKING CASE (VSX-97)	AHD2611
	4	OPERATING INSTRUCTIONS (English) (VSX-D2S)	ARB1455
	4	OPERATING INSTRUCTIONS (English) (VSX-97)	ARB1456
	5	SUB OPERATING INSTRUCTIONS (English)	ARH1134
	6	REMOTE CONTROL UNIT (CU-VSX068) (VSX-D2S)	AXD1348
	6	REMOTE CONTROL UNIT (CU-VSX69) (VSX-97)	AXD1349
NSP	7	BATTERY (LR6, AA)	AEX1007
	8	FM ANTENNA	ADH1004
	9	LOOP ANTENNA ASSY	ATB1005
NSP	10	SHEET	AHG1163

NOTE: Part number differs between VSX-D2S/KC, SD and KU.

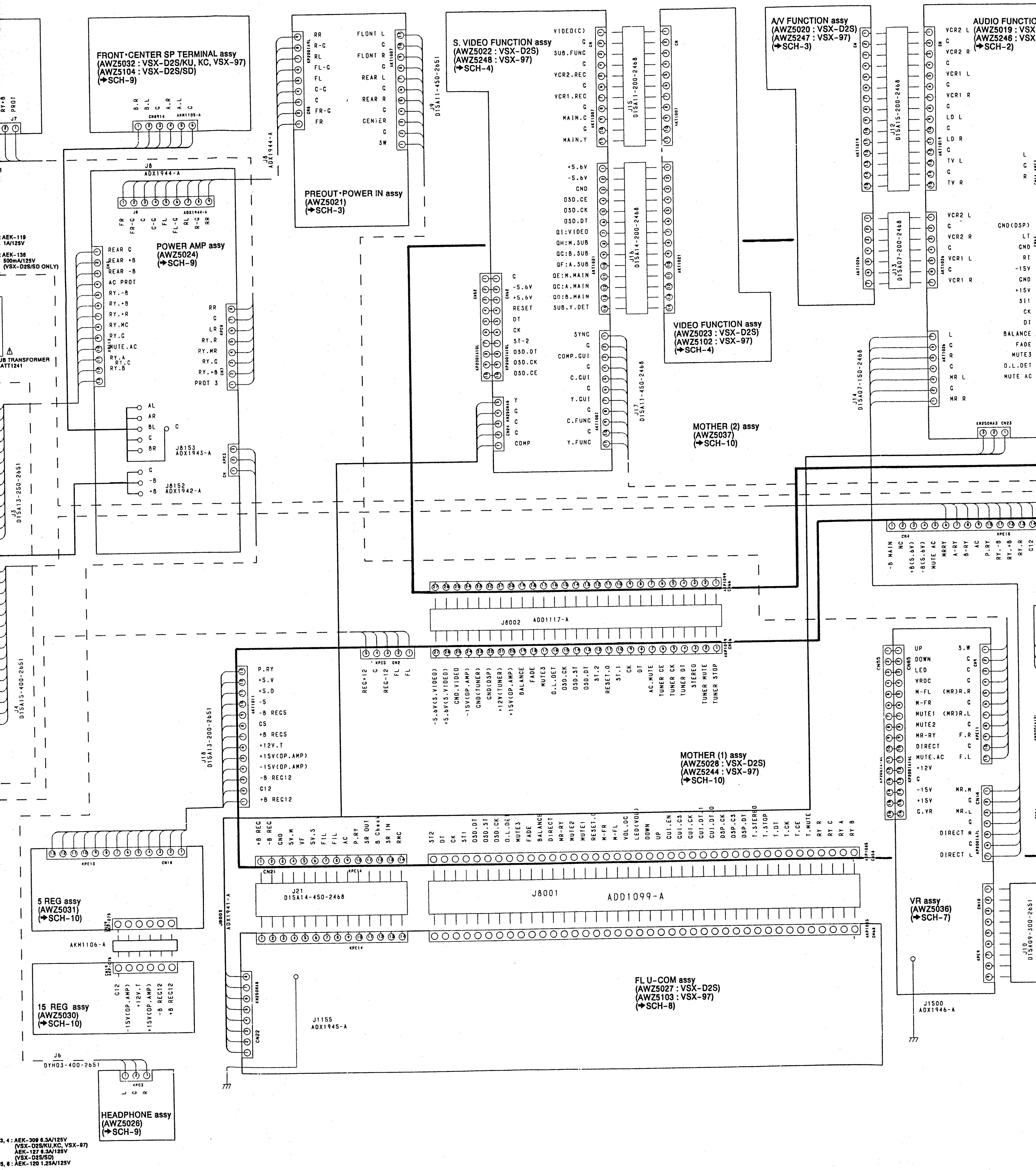
Mark	No.	Symbol & Description	Part No.			Remarks
			VSX-D2S/KU	VSX-D2S/KC	VSX-D2S/SD	
	3	Packing case Operating instructions (French) Sub operating instructions (French)	AHD2610	AHD2610 ARC1441 ARH1135	AHD2635	

5. SCHEMATIC AND PCB CONNECTION DIAGRAMS

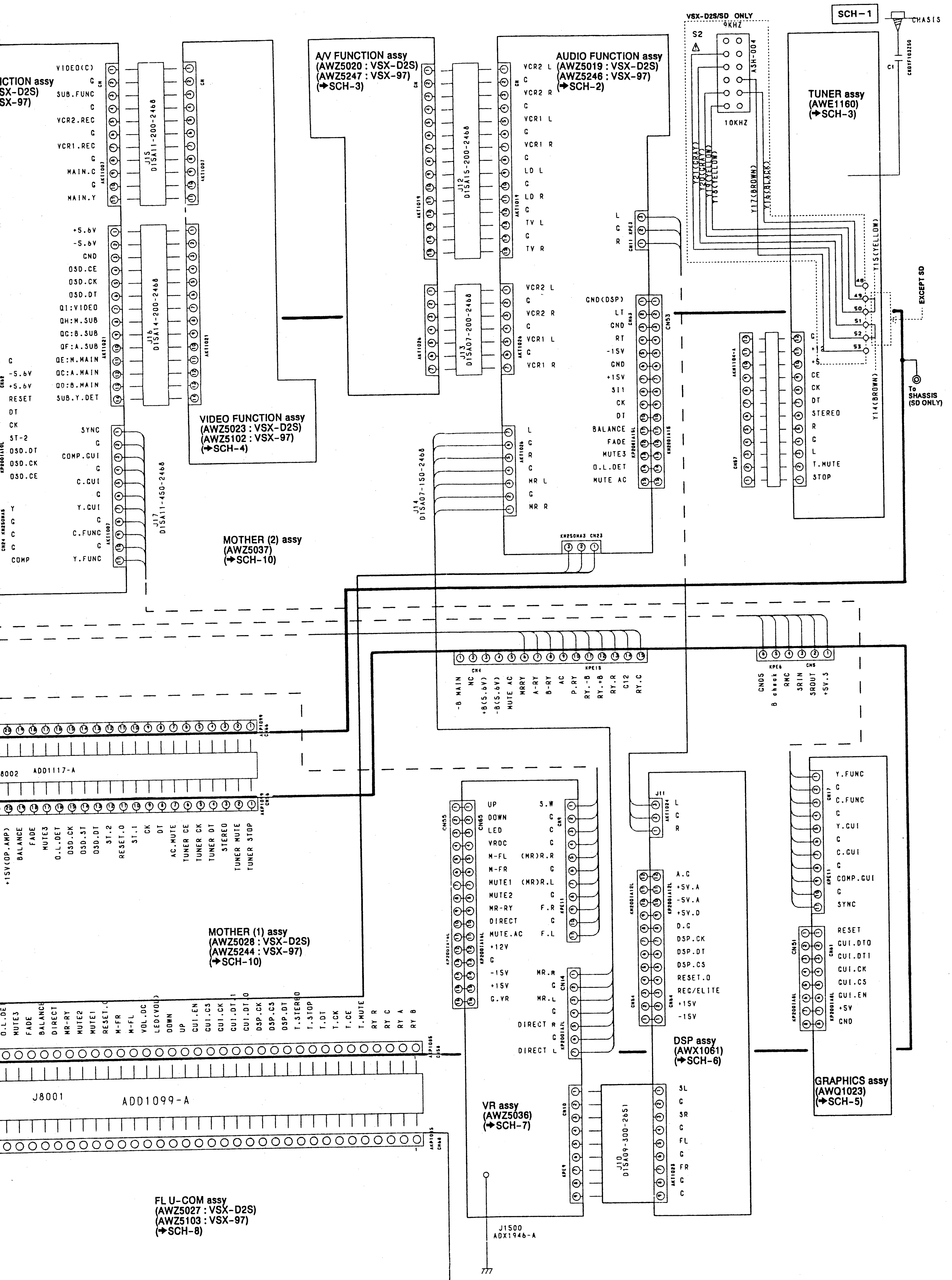
5.1 OVERALL SCHEMATIC DIAGRAM


A
B
C
D
E
F
AC POWER CORD
ADG1058 (VSX-D2S/KU, KC)
ADG1072 (VSX-97)
ADG1051 (VSX- D2S/SD)
AC 120V/60Hz (VSX-D2S/KU, KC) (VSX- 97)
AC 110V/120-127V/ 220V/240V 50/60Hz (VSX- D2S/SD)
VSX-D2S/SD ONLY
S1 S3 Y11-Y13 Y22-Y27
S3
S1
AKX-507
AKX1004
110
127V
220
240V
FU1 : AEK1002 8A/125V (VSX-D2S/KU, KC, VSX-97)
AEK-125 4A/125V (VSX-D2S/SD)
RMR-SP assy (AWZ5033) (→SCH-10)
RR G RL RL RY.MR RY.C RY+B PROT
J7
DYH08-350-2651
FRONT•CENTER SP TERMINAL assy (AWZ5032 : VSX-D2S/KU, KC, VSX-97) (AWZ5104 : VSX-D2S/SD) (→SCH-9)
B.R B.L G A.R A.L C
J8
ADX1944-A
PREOUT•POWER IN assy (AWZ5021) (→SCH-3)
RR R-C RL FL-C FL C-C C FR-C FR
FLONT L G FLONT R G REAR L G REAR R G CENTER G SW
J9
D1SA11-450-2651
S. VIDEO FUNC
(AWZ5022 : VS
(AWZ5248 : VS
(→SCH-4)
GNDS B CHECK RMC SR IN SR OUT +5V.S
FU1
J5
D1SA6-550-2651
FU7 : AEK-119 1A/125V
FU8 : AEK-136 500mA/125V (VSX-D2S/SD ONLY)
P1551 MAIN P1552 SD P1553 P1554 SUB P1555 COM
P1556 P1557 P1558
Y8 (GRAY) (VSX-D2S/KU/KC ONLY)
YJ 6HW8-2S-3S/3S
Y9 (WHITE)
YJ 6HW9-2S-3S/3S
SUB TRANS
FU8 FU7
SUB TRANSFORMER
SUB TRANSFORMER ATT1241
SD TYPE ONLY
J23 DYH03-250-2651
SUB TRANS assy (AWZ5035) (→SCH-10)
FU2 : AEK-125 4A/125V (SD TYPE ONLY)
(WHITE) Y29
(GRAY) Y28
POWER AMP assy (AWZ5024) (→SCH-9)
REAR C REAR +B REAR -B AC PROT RY.-B RY.+B RY.+R RY.MC RY.C MUTE.AC RY.A RY.C RY.B
RR G LR RY.R RY.MR RY.C RY.+B PROT 3
AL AR BL C BR
J8153 ADX1943-A
C -B +B
J8152 ADX1942-A
J1 DYH03-400-2651
REAR C REAR +B REAR -B AC PROT RY.-B RY.+B RY.R RY.MR RY.C MUTE.AC RY.A RY.B RY.C
J3 D1SA13-250-2651
POWER SUPPLY assy (AWZ5029 : VSX-D2S) (AWZ5245 : VSX-97) (→SCH-10)
CN704
GND +B -B
RY.C G12 RY.R RY.+B RY.-B P.RY AC B-RY A-RY RY.MR MUTE.AC -B(5.6V) +B(5.6V) NC -B MAIN
J4 D1SA15-400-2651
VSX-D2S/KU, KC ONLY
VSX-D2S/SD ONLY
VSX-97 ONLY
(WHITE) (BROWN)
(GRAY) (BLACK) (BLUE) (ORANGE) (RED)
P1661 P1662 P1663 P1664 P1665
Y3(BLUE) Y4(BROWN) Y1(BLACK) Y5(YELLOW) Y2(RED)
Y6(BROWN)
Y7(YELLOW)
2,3,5,6,7 VSX-D2S/SD ONLY
MAIN TRANSFORMER
MAIN TRANSFORMER ATS1497 (VSX-D2S/KU, KC) ATS1498 (VSX-D2S/SD) ATS1499 (VSX-97)
8 9 10 11 12 13 14 15 16
CN72 CN71
(BLUE) (YELLOW) (BLACK) (YELLOW) (PURPLE) (BROWN) (PURPLE)
VSX-97 ONLY
FL FL REG-12 G REG+12
TRANS assy (AWZ5034 : VSX-D2S) (AWZ5106 : VSX-97) (→SCH-10)
FU5 FU3 FU6 FU4
CN1 KPC3
J2 DYH05-600-2651
FU3, 4 : AEK-309 6.3A/125V (VSX-D2S/KU,KC, VSX-97) AEK-127 6.3A/125V (VSX-D2S/SD)
FU5, 6 : AEK-120 1.25A/125V
5 REG assy (AWZ5031) (→SCH-10)
AKM1106-A
15 REG assy (AWZ5030) (→SCH-10)
G12 -15V(OP.AMP) +12V.T +15V(OP.AMP) -B REC12 +B REC12
J6 DYH03-400-2651
HEADPHONE assy (AWZ5026) (→SCH-9)
L G R
J18 D1SA13-200-2651
P.RY +5.V +5.D -5 -B RECS GS +B RECS +12V.T +15V(OP.AMP) -15V(OP.AMP) -B REC12 G12 +B REC12
REC+12 G REC-12 FL FL
-5.6V(S.VIDEO) +5.6V(S.VIDEO) GND.VIDEO -15V(OP.AMP) GND(TUNER) GND(DSP) +12V(TUNER)
J8003
ADX1941-A
+B REC -B REC GND 5V.M VF 5V.5 FIL FIL AC P.RY SR OUT B Chec SR IN RMC
ST2 DT CK ST1 OSD.DT OSD.ST OSD.CK
J21 D1SA14-450-2468
J1155 ADX1945-A
CN21 CN22 KPE14

AGRAMS


FRONT·CENTER SP TERMINAL assy
(AWZ5032 : VSX-D2S/KU, KC, VSX-97)
(AWZ5104 : VSX-D2S/SD)
(➔SCH-9)
PREOUT·POWER IN assy
(AWZ5021)
(➔SCH-3)
S. VIDEO FUNCTION assy
(AWZ5022 : VSX-D2S)
(AWZ5248 : VSX-97)
(➔SCH-4)
A/V FUNCTION assy
(AWZ5020 : VSX-D2S)
(AWZ5247 : VSX-97)
(➔SCH-3)
AUDIO FUNCTIC
(AWZ5019 : VSX
(AWZ5246 : VSX
(➔SCH-2)
POWER AMP assy
(AWZ5024)
(➔SCH-9)
VIDEO FUNCTION assy
(AWZ5023 : VSX-D2S)
(AWZ5102 : VSX-97)
(➔SCH-4)
MOTHER (2) assy
(AWZ5037)
(➔SCH-10)
MOTHER (1) assy
(AWZ5028 : VSX-D2S)
(AWZ5244 : VSX-97)
(➔SCH-10)
5 REG assy
(AWZ5031)
(➔SCH-10)
15 REG assy
(AWZ5030)
(➔SCH-10)
FL U-COM assy
(AWZ5027 : VSX-D2S)
(AWZ5103 : VSX-97)
(➔SCH-8)
VR assy
(AWZ5036)
(➔SCH-7)
HEADPHONE assy
(AWZ5026)
(➔SCH-9)
: AEK-119 1A/125V
: AEK-136 500mA/125V (VSX-D2S/SD ONLY)
UB TRANSFORMER ATT1241
J8 ADX1944-A
J9 D1SA11-450-2651
J15 D1SA11-200-2468
J16 D1SA14-200-2468
J17 D1SA11-450-2468
J12 D1SA15-200-2468
J13 D1SA07-200-2468
J14 D1SA07-150-2468
J8153 ADX1943-A
J8152 ADX1942-A
J3 D1SA13-250-2651
J4 D1SA15-400-2651
J18 D1SA13-200-2651
J8002 ADD1117-A
J8001 ADD1099-A
J21 D1SA14-450-2468
J8003 ADX1941-A
J1155 ADX1945-A
J1500 ADX1946-A
J10 D1SA09-300-2651
J6 DYH03-400-2651
AKH1106-A
J7

3, 4 : AEK-309 6.3A/125V
(VSX-D2S/KU,KC, VSX-97)
AEK-127 6.3A/125V
(VSX-D2S/SD)
5, 6 : AEK-120 1.25A/125V


SCH-1
CHASSIS
VSX-D2S/SD ONLY
S2
9KHZ
10KHZ
ASH-004
TUNER assy
(AWE1160)
(➔SCH-3)
A/V FUNCTION assy
(AWZ5020 : VSX-D2S)
(AWZ5247 : VSX-97)
(➔SCH-3)
AUDIO FUNCTION assy
(AWZ5019 : VSX-D2S)
(AWZ5246 : VSX-97)
(➔SCH-2)
VIDEO FUNCTION assy
(AWZ5023 : VSX-D2S)
(AWZ5102 : VSX-97)
(➔SCH-4)
MOTHER (2) assy
(AWZ5037)
(➔SCH-10)
MOTHER (1) assy
(AWZ5028 : VSX-D2S)
(AWZ5244 : VSX-97)
(➔SCH-10)
DSP assy
(AWX1061)
(➔SCH-6)
GRAPHICS assy
(AWQ1023)
(➔SCH-5)
VR assy
(AWZ5036)
(➔SCH-7)
FL U-COM assy
(AWZ5027 : VSX-D2S)
(AWZ5103 : VSX-97)
(➔SCH-8)
J15 D1SA11-200-2468
J16 D1SA14-200-2468
J17 D1SA11-450-2468
J12 D1SA15-200-2468
J13 D1SA07-200-2468
J14 D1SA07-150-2468
J10 D1SA09-300-2651
J8002 ADD1117-A
J8001 ADD1099-A
J1500 ADX1946-A
EXCEPT SD
To SHASSIS (SD ONLY)
Y11(BROWN)
Y15(YELLOW)
Y14(BROWN)
Y16(BLACK)

NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   ☐ or − V :
   DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA or − mA :
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ⊘ : Adjusting point.
   - : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH−☐ ON THE SCHEMATIC DIAGRAM:**
   - SCH−☐ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):

S1	LINE VOLTAGE SELECTOR 110-127V/220-240V (VSX-D2S/SD ONLY)
S2	CHANNEL STEP 9kHz/10kHz (VSX-D2S/SD ONLY)
S3	LINE VOLTAGE SELECTOR 110V/120-127V/220V/240V (VSX-D2S/SD ONLY)

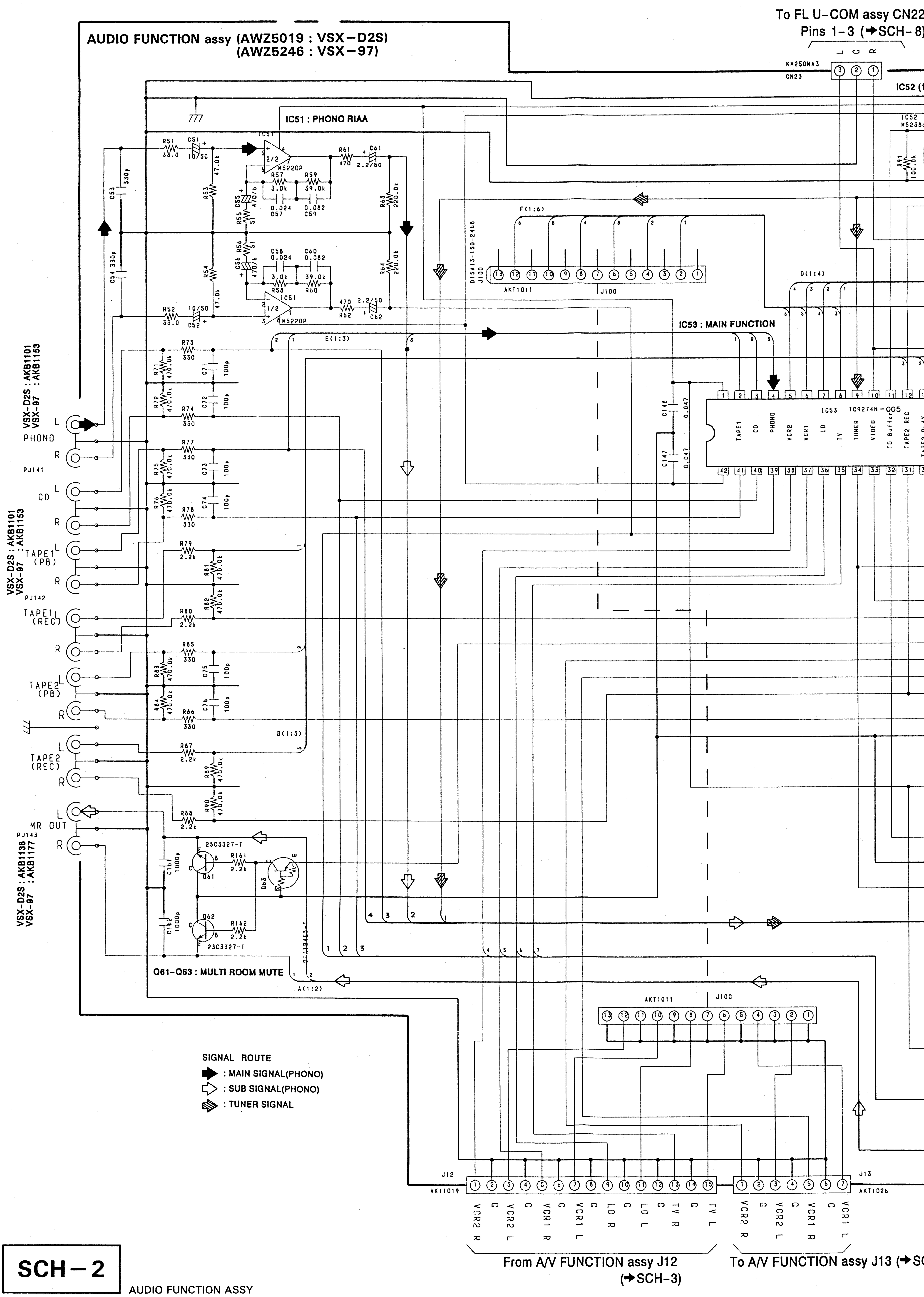
FL U-COM assy

S1001	RESET
S1002	DEMO
S1003	#C
S1004	INPUT ATT
S1005	#D
S1006	*5
S1007	*9
S1008	*4
S1009	*0
S1010	RETURN
S1011	*8
S1013	*3
S1014	*1
S1015	*7
S1016	VIDEO NR
S1017	*2
S1018	TUNING +
S1019	*6
S1020	FM/AM
S1021	TUNING -
S1022	SELECTION (SOUND REQUEST)
S1023	#A
S1024	MUTING
S1025	#B
S1026	TUNER
S1027	PURE LINE
S1028	PHONO
S1029	CD
S1030	TAPE1
S1031	TV/SAT
S1032	TAPE2 MONITOR
S1033	LD
S1034	VCR1
S1035	VIDEO
S1036	POWER
S1037	VCR2
S1038	MULTI ROOM & SOURCE
S1039	SP-A
S1040	SP-B

POWER SUPPLY assy

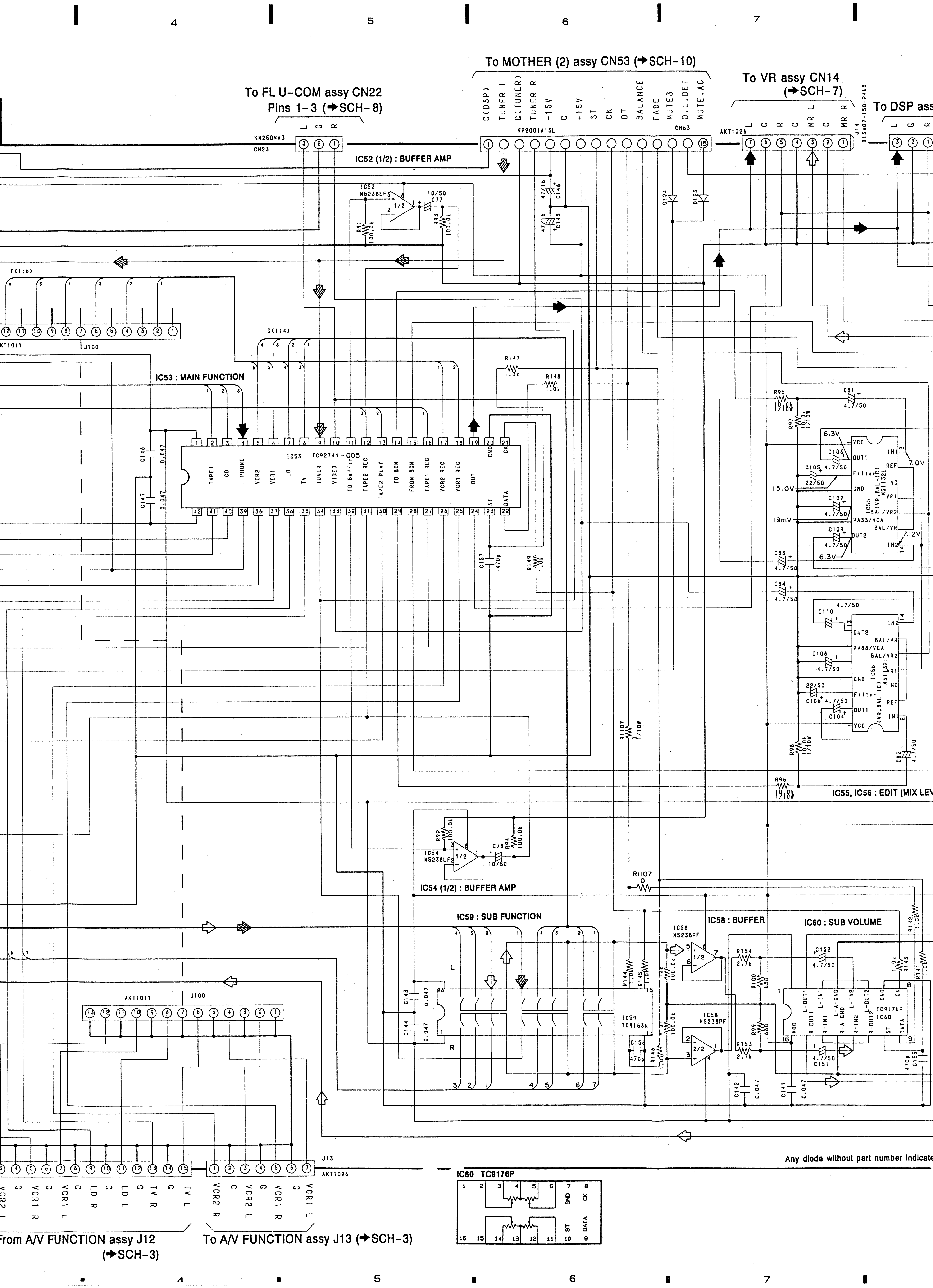
S701	SPEAKER IMPEDANCE SELECTOR LOW/HIGH (VH/VL)

5.2 AUDIO FUNCTION ASSY

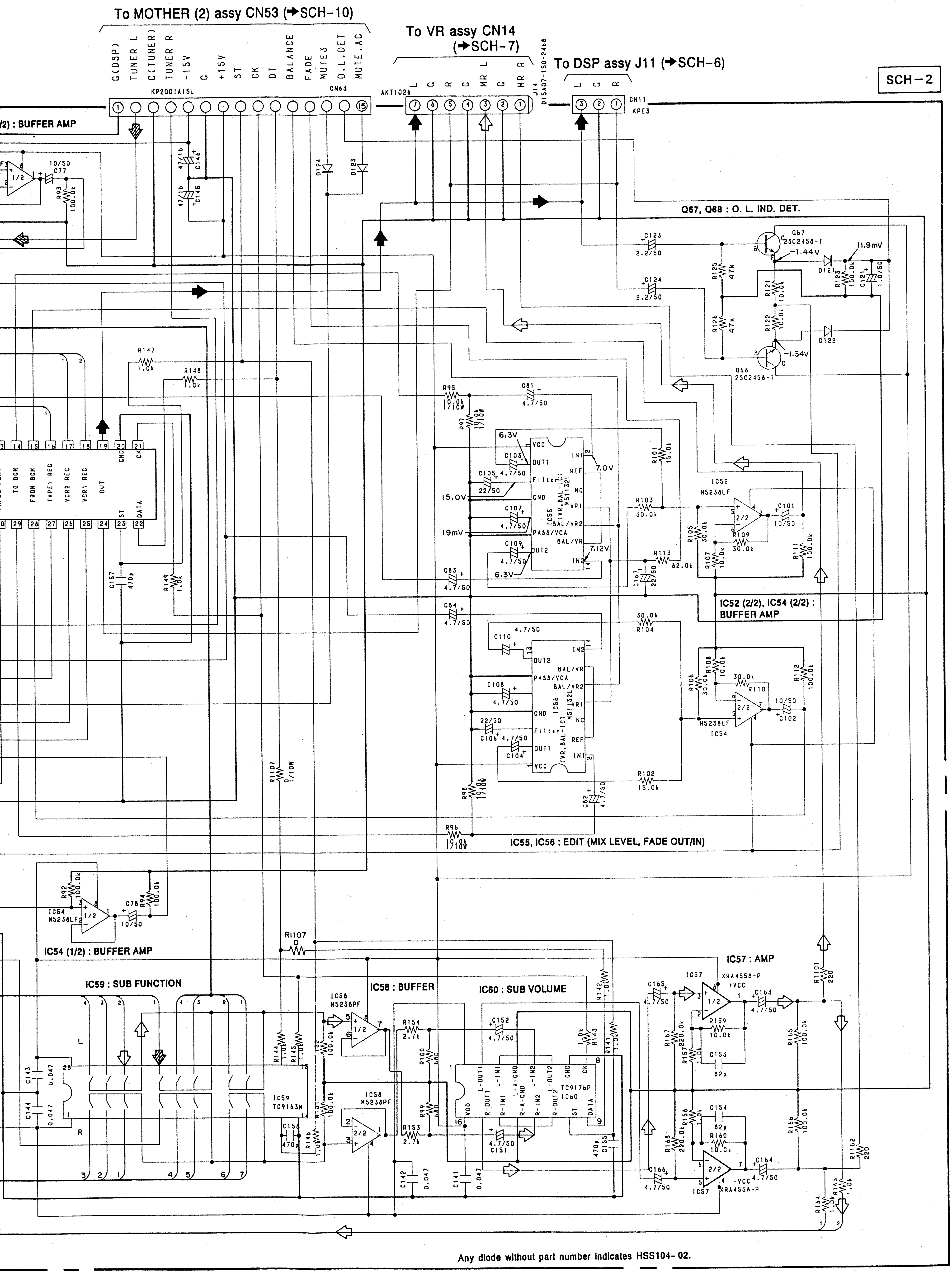

AUDIO FUNCTION assy (AWZ5019 : VSX-D2S)
(AWZ5246 : VSX-97)
To FL U-COM assy CN22
Pins 1-3 (➔SCH-8)
L G R
KM250NA3
CN23
IC52
IC51 : PHONO RIAA
M5220P
R51 33.0
C51 10/50
R53 47.0k
R54 47.0k
C53 330p
C54 330p
R52 33.0
C52 10/50
R57 3.0k
R59 39.0k
C55 470/6
C57 0.024
C59 0.082
R55 51
R56 51
C56 470/6
C58 0.024
C60 0.082
R58 3.0k
R60 39.0k
R61 470
C61 2.2/50
R62 470
C62 2.2/50
R63 220.0k
R64 220.0k
F(1:6)
D15A13-150-2468
J100
AKT1011
D(1:4)
E(1:3)
IC53 : MAIN FUNCTION
IC53 TC9274N-005
TAPE1
CD
PHONO
VCR2
VCR1
LD
TV
TUNER
VIDEO
TO Buffer
TAPE2 REC
C146 0.047
C147 0.047
VSX-D2S : AKB1101
VSX-97 : AKB1153
PHONO
L
R
PJ141
CD
TAPE1 (PB)
PJ142
TAPE1 (REC)
TAPE2 (PB)
TAPE2 (REC)
MR OUT
PJ143
VSX-D2S : AKB1138
VSX-97 : AKB1177
R73 330
R71 470.0k
R72 470.0k
C71 100p
C72 100p
R74 330
R77 330
R75 470.0k
R76 470.0k
C73 100p
C74 100p
R78 330
R79 2.2k
R81 470.0k
R82 470.0k
R80 2.2k
R85 330
R83 470.0k
R84 470.0k
C75 100p
C76 100p
R86 330
B(1:3)
R87 2.2k
R89 470.0k
R90 470.0k
R88 2.2k
2SC3327-T
Q61
Q62
Q63
R161 2.2k
R162 2.2k
C161 1000p
C162 1000p
DTA124ES-T
Q61-Q63 : MULTI ROOM MUTE
A(1:2)
AKT1011
J100
J12
AKI1019
VCR2 R
G
VCR2 L
G
VCR1 R
G
VCR1 L
G
LD R
G
LD L
G
TV R
G
TV L
J13
AKT1026
VCR2 R
G
VCR2 L
G
VCR1 R
G
VCR1 L
From A/V FUNCTION assy J12
(➔SCH-3)
To A/V FUNCTION assy J13 (➔SC

SIGNAL ROUTE

- ➡ : MAIN SIGNAL(PHONO)
- ⇨ : SUB SIGNAL(PHONO)
- ▨ : TUNER SIGNAL

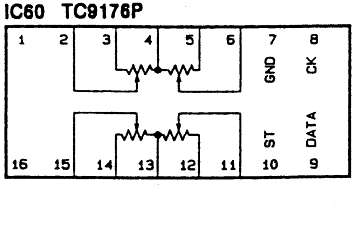

4
5
6
7
To MOTHER (2) assy CN53 (➔SCH-10)
G(DSP)
TUNER L
G(TUNER)
TUNER R
-15V
G
+15V
ST
CK
DT
BALANCE
FADE
MUTE3
O.L.DET
MUTE.AC
KP2001A15L
CN63
To VR assy CN14 (➔SCH-7)
AKT1026
L
G
R
G
MR L
G
MR R
J14
D15A07-150-2468
To DSP ass
To FL U-COM assy CN22 Pins 1-3 (➔SCH-8)
KM250NA3
CN23
IC52 (1/2) : BUFFER AMP
IC52
M5238LF
1/2
R91 100.0k
R93 100.0k
10/50 C77
47/16 C146
47/16 C145
D124
D123
F(1:6)
KT1011
J100
D(1:4)
IC53 : MAIN FUNCTION
IC53 TC9274N-005
TAPE1
CD
PHONO
VCR2
VCR1
LD
TV
TUNER
VIDEO
TO Buffer
TAPE2 REC
TAPE2 PLAY
TO BCM
FROM BCM
TAPE1 REC
VCR2 REC
VCR1 REC
OUT
GND
CK
ST
DATA
C148 0.047
C147 0.047
C157 470p
R149 1.0k
R147 1.0k
R148 1.0k
R95 10.0k 1/10W
R97 10.0k 1/10W
C81 4.7/50
6.3V
VCC
C103
OUT1
IN1
REF
7.0V
C105 4.7/50
Filter
22/50
GND
NC
15.0V
C107 4.7/50
VR1
IC55 (VR.BAL-IC) M51132L
BAL/VR2
19mV
PA33/VCA
BAL/VR
C109 4.7/50
OUT2
IN2
7.12V
C83 4.7/50
6.3V
C84 4.7/50
C110 4.7/50
IC56 (VR.BAL-IC) M51132L
C108 4.7/50
22/50
C106 4.7/50
C104
C82 4.7/50
R98 10.0k 1/10W
R96 10.0k 1/10W
IC55, IC56 : EDIT (MIX LEV
R1107 0 1/10W
R92 100.0k
R94 100.0k
IC54 M5238LF
C78 10/50
IC54 (1/2) : BUFFER AMP
R1107 0
IC59 : SUB FUNCTION
IC58 : BUFFER
IC60 : SUB VOLUME
IC58 M5238PF
L
R
C143 0.047
C144 0.047
IC59 TC9163N
C156 470p
R144 1.0k
R145 1.0k
R132 100.0k
R131 100.0k
R146 1.0k
R154 2.7k
R100 680
R99 680
R153 2.7k
C152 4.7/50
C151 4.7/50
VDD
R-OUT1
L-OUT1
R-IN1
L-IN1
R-A-GND
L-A-GND
R-IN2
L-IN2
R-OUT2
L-OUT2
GND
CK
ST
DATA
TC9176P IC60
R142 1.0k
R143 1.0k
R141 1.0k
C155 470p
C142 0.047
C141 0.047
AKT1011
J100
J13
AKT1026
VCR2 L
G
VCR1 R
G
VCR1 L
G
LD R
G
LD L
G
TV R
G
TV L
VCR2 R
G
VCR2 L
G
VCR1 R
G
VCR1 L
From A/V FUNCTION assy J12 (➔SCH-3)
To A/V FUNCTION assy J13 (➔SCH-3)
IC60 TC9176P
GND
CK
ST
DATA

Any diode without part number indicate


To MOTHER (2) assy CN53 (➔SCH-10)
G(DSP)
TUNER L
G(TUNER)
TUNER R
-15V
G
+15V
ST
CK
DT
BALANCE
FADE
MUTE3
O.L.DET
MUTE.AC
KP2001A15L
CN63
To VR assy CN14 (➔SCH-7)
AKT1026
J14 D15A07-150-2468
To DSP assy J11 (➔SCH-6)
CN11
KPE3
SCH-2
/2) : BUFFER AMP
C77 10/50
R93 100.0k
C146 47/16
C145 47/16
D124
D123
Q67, Q68 : O. L. IND. DET.
C123 2.2/50
C124 2.2/50
R125 47k
R126 47k
Q67 2SC2458-T
-1.44V
11.9mV
D121
R123 100.0k
C121 1.0/50
R121 10.0k
R122 10.0k
D122
-1.34V
Q68 2SC2458-T
R147 1.0k
R148 1.0k
TO BCM
FROM BCM
TAPE1 REC
VCR2 REC
VCR1 REC
OUT
GND
CK
ST
DATA
C157 470p
R149 1.0k
R95 10.0k 1/10W
R97 10.0k 1/10W
C81 4.7/50
6.3V
VCC
OUT1
C103
C105 4.7/50
22/50
Filter
GND
15.0V
C107 4.7/50
19mV
PASS/VCA
C109 4.7/50
OUT2
6.3V
IN1
7.0V
REF
NC
VR1
BAL/VR2
BAL/VR
IN2
7.12V
IC55 (VR,BAL-IC) M51132L
R101 15.0k
R103 30.0k
R113 82.0k
C167 22/50
IC52 M5238LF
C101 10/50
R105 30.0k
R109 30.0k
R107 10.0k
R111 100.0k
IC52 (2/2), IC54 (2/2) : BUFFER AMP
C83 4.7/50
C84 4.7/50
R104 30.0k
C110 4.7/50
IC56 (VR,BAL-IC) M51132L
C108 4.7/50
C106 22/50
C104 4.7/50
R108 10.0k
R106 30.0k
R110 30.0k
R112 100.0k
C102 10/50
M5238LF
IC54
R102 15.0k
C82 4.7/50
R1107 0 1/10W
R98 10.0k 1/10W
R96 10.0k 1/10W
IC55, IC56 : EDIT (MIX LEVEL, FADE OUT/IN)
R92 100.0k
IC54 M5238LF
C78 10/50
R94 100.0k
IC54 (1/2) : BUFFER AMP
R1107 0
IC57 : AMP
IC59 : SUB FUNCTION
IC58 : BUFFER
IC60 : SUB VOLUME
IC58 M5238PF
IC57 XRA4558-P +VCC
C165 4.7/50
C163 4.7/50
R1101 220
R142 1.0k
R143 1.0k
R141 1.0k
R154 2.7k
C152 4.7/50
R159 10.0k
C153 82p
R167 220.0k
R157 220.0k
P165 100.0k
C143 0.047
C144 0.047
L
R
IC59 TC9163N
R144 1.0k
R145 1.0k
R152 100.0k
R151 100.0k
C156 470p
R146 1.0k
IC58 M5238PF
R100 680
R99 680
R153 2.7k
L-OUT1
L-IN1
L-A-GND
L-IN2
L-OUT2
R-OUT1
R-IN1
R-A-GND
R-IN2
R-OUT2
VDD
GND
CK
ST
DATA
TC9176P IC60
C151 4.7/50
C155 470p
C142 0.047
C141 0.047
R158 220.0k
C154 82p
R160 100.0k
R168 220.0k
R166 100.0k
C166 4.7/50
IC57 XRA4558-P -VCC
C164 4.7/50
R1102 220
R164 1.0k
R163 1.0k
A
B
C
D
E
F

Any diode without part number indicates HSS104-02.

IC60 TC9176P

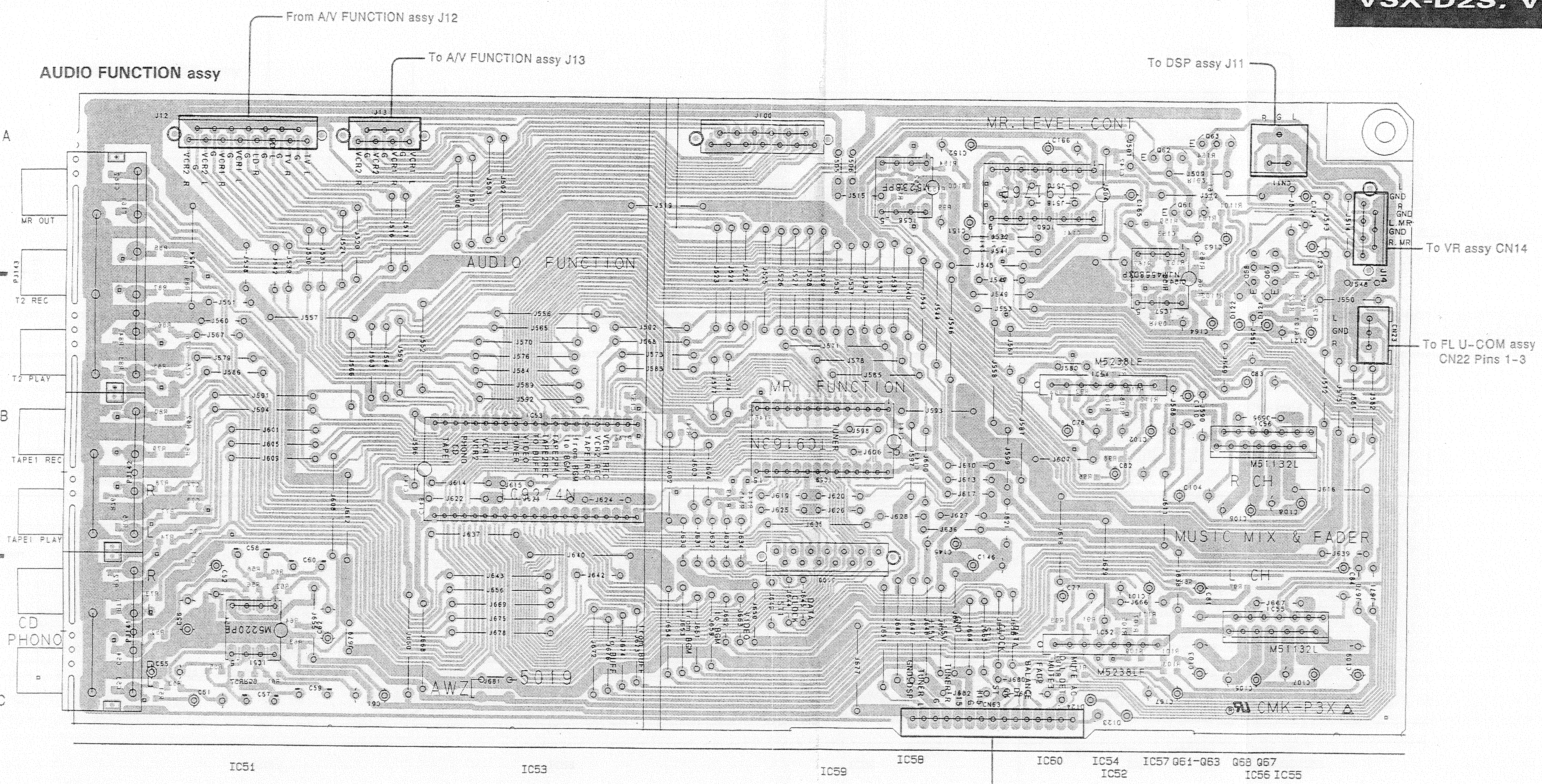

1
2
3
4
5
6
7
8
GND
CK
16
15
14
13
12
11
10
9
ST
DATA

CH-3)

SCH-2

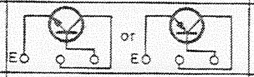
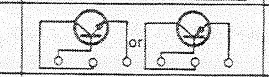
AUDIO FUNCTION ASSY

AUDIO FUNCTION assy


From A/V FUNCTION assy J12
To A/V FUNCTION assy J13
To DSP assy J11
J12
J13
J100
VCR2 R
VCR2 L
VCR1 R
VCR1 L
MR OUT
T2 REC
T2 PLAY
TAPE1 REC
TAPE1 PLAY
CD
PHONO
AUDIO FUNCTION
MR LEVEL CONT
MR FUNCTION
MUSIC MIX & FADER
R CH
L CH
M5220PB
M5238FP
M5238LE
M51132L
M5238FE
NE5532N
LC9274N
AWZ 5019
TUNER
BALANCE
FADER
DATA
GND DSP
CN63
CMK-P3X
GND
L.MR
R.MR
To VR assy CN14
To FL U-COM assy CN22 Pins 1-3
To MOTHER (2) assy CN53
IC51
IC53
IC59
IC58
IC60
IC54
IC52
IC57 Q61-Q63
Q68 Q67
IC56 IC55

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.
3. The capacitor terminal marked with ◎ (double circles) shows negatine terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 E	 E or E	Transistor
Q215	 or	Radiator type transistor
D203	D203	Diode

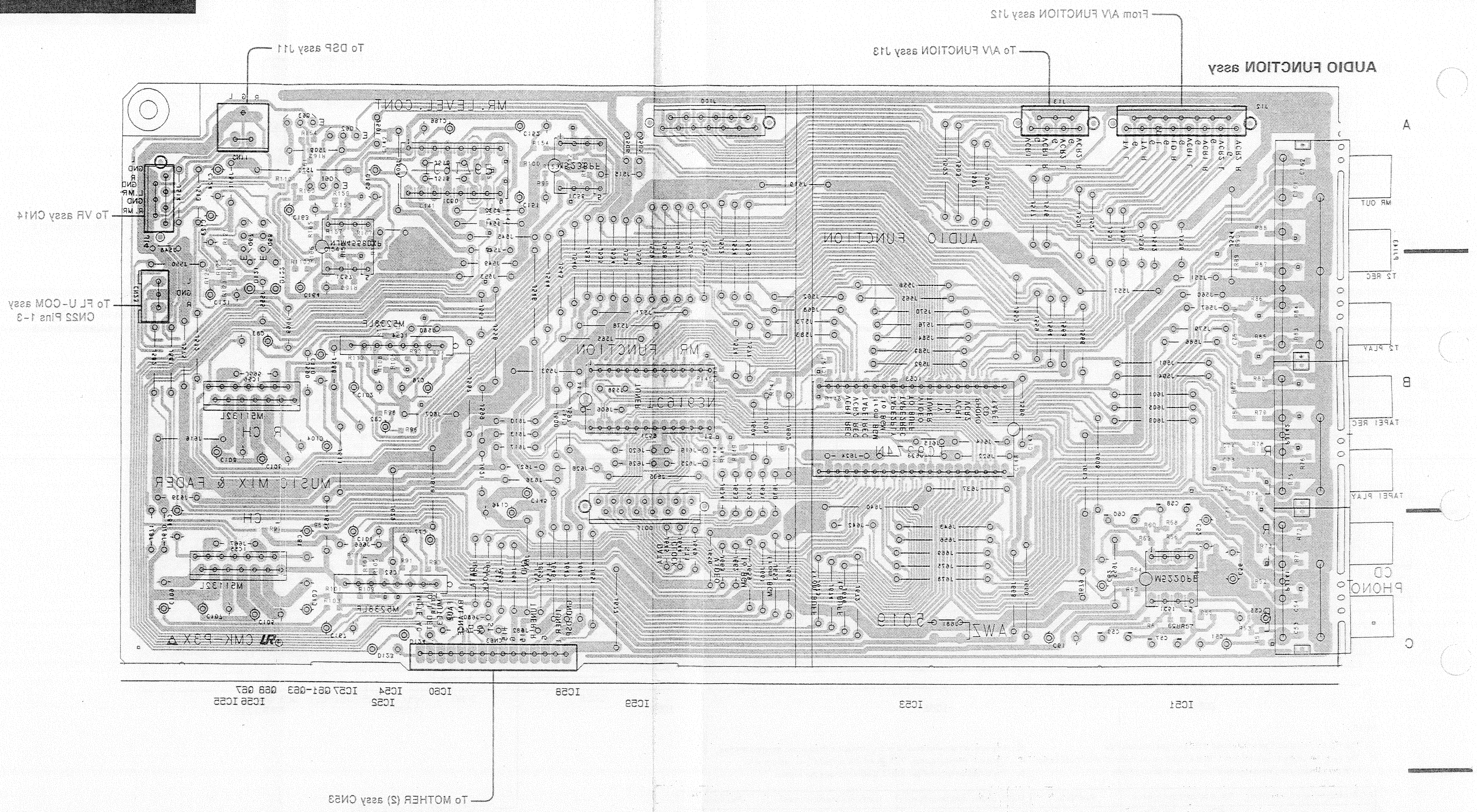
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
R237	R237	Resistor
C513	+	Capacitor (Polarized)
C518		Capacitor (Non-polarized)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay

P.C.B. pattern diagram indication	Part Name
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

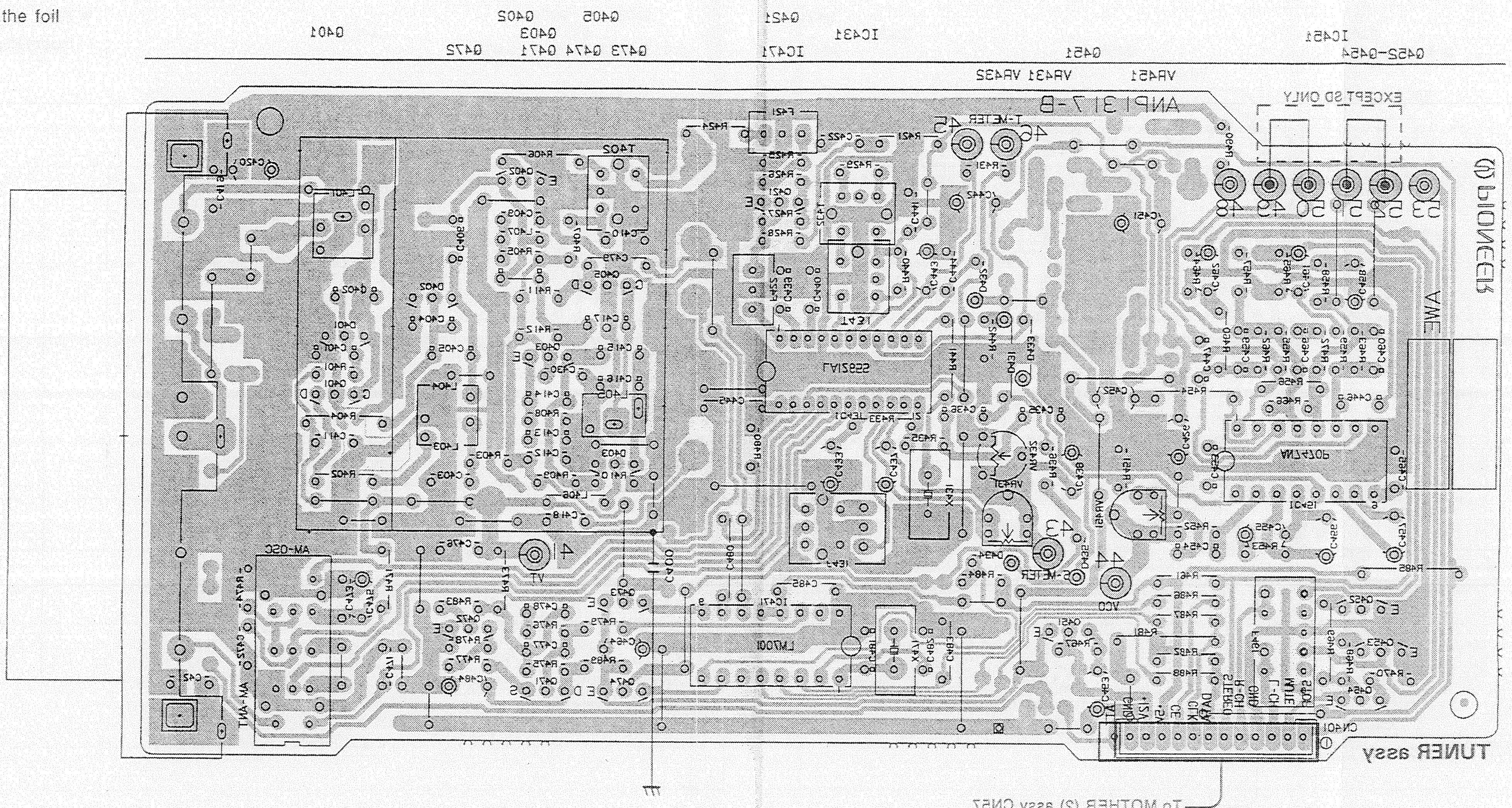
- This diagram is viewed from the mounted parts side.


AUDIO FUNCTION assy
From A/V FUNCTION assy J12
To A/V FUNCTION assy J13
To DSP assy J11
To VR assy CN14
To FL U-COM assy CN22 Pins 1-3
To MOTHER (2) assy CN53
MR. LEVEL. CONT
MR FUNCTION
AUDIO FUNCTION
MUSIC MIX & FADER
R CH
L CH
MR OUT
T2 REC
T2 PLAY
TAPE1 REC
TAPE1 PLAY
CD
PHONO
IC51
IC53
IC59
IC58
IC60
IC54
IC52
IC57 G61-G63
G68 G67
IC56 IC55

• This diagram is viewed from the foil side.

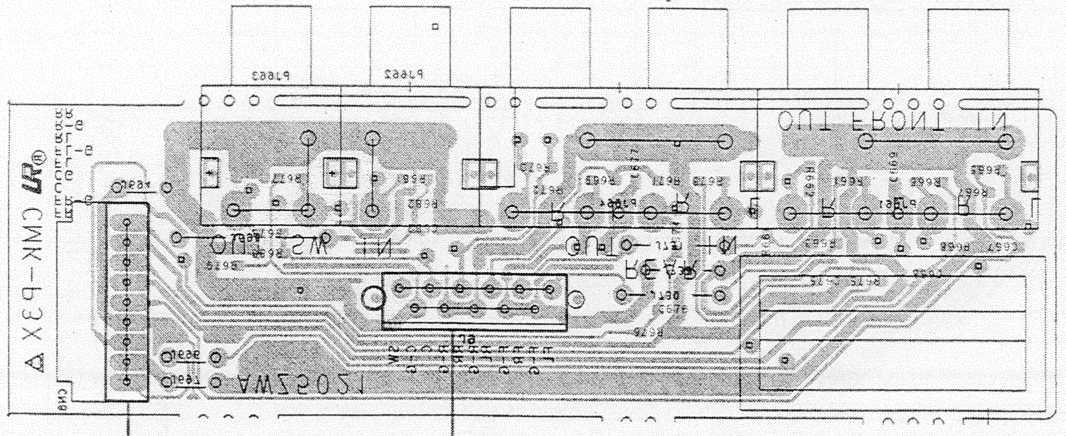
5.3 TUNER ASSY, A/V FUNCTION ASSY AND PREOUT • POWER IN ASSY

- This diagram is viewed from the foil side.


Q401
Q402 Q403 Q405
Q472 Q473 Q474 Q471
Q421 IC431 IC471
Q451
IC451 Q452–Q454
VR432 VR431 VR451
ANP1317-B
EXCEPT SD ONLY
PIONEER
LA1265
LA7210
LM7001
T-METER
S-METER
VCO
AM-OSC
AM-ANT
CN401
FM

TUNER assy

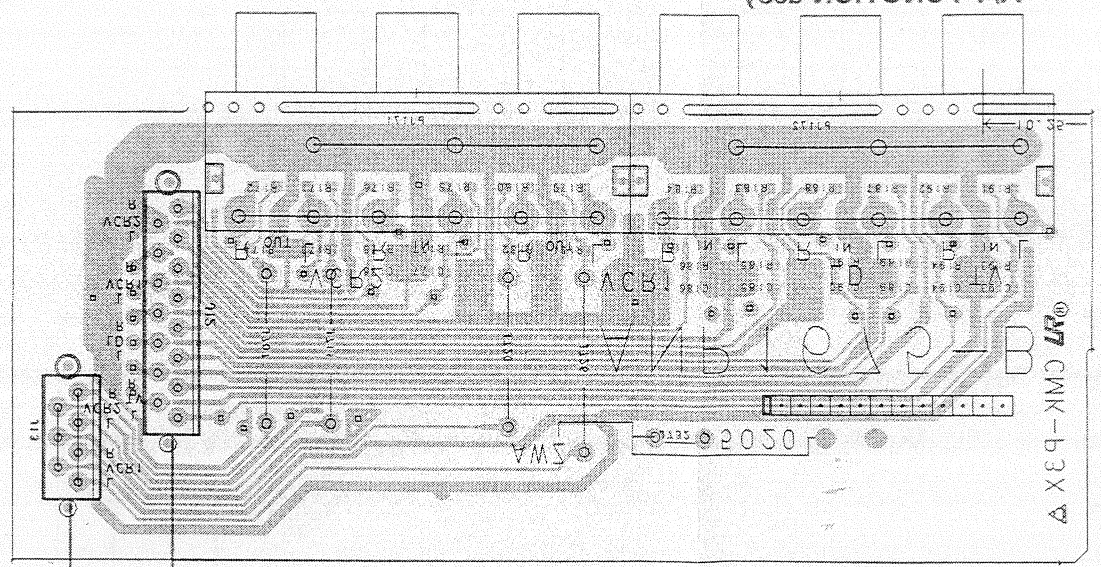
To MOTHER (2) assy CN57


OUT FRONT IN
CMK-P3X
AWZ0S1

PREOUT • POWER IN assy

From VR assy CN9

To POWER AMP assy J8


ANP1679-B
CMK-P3X
VCR1
VCR2
LD
J12
J13

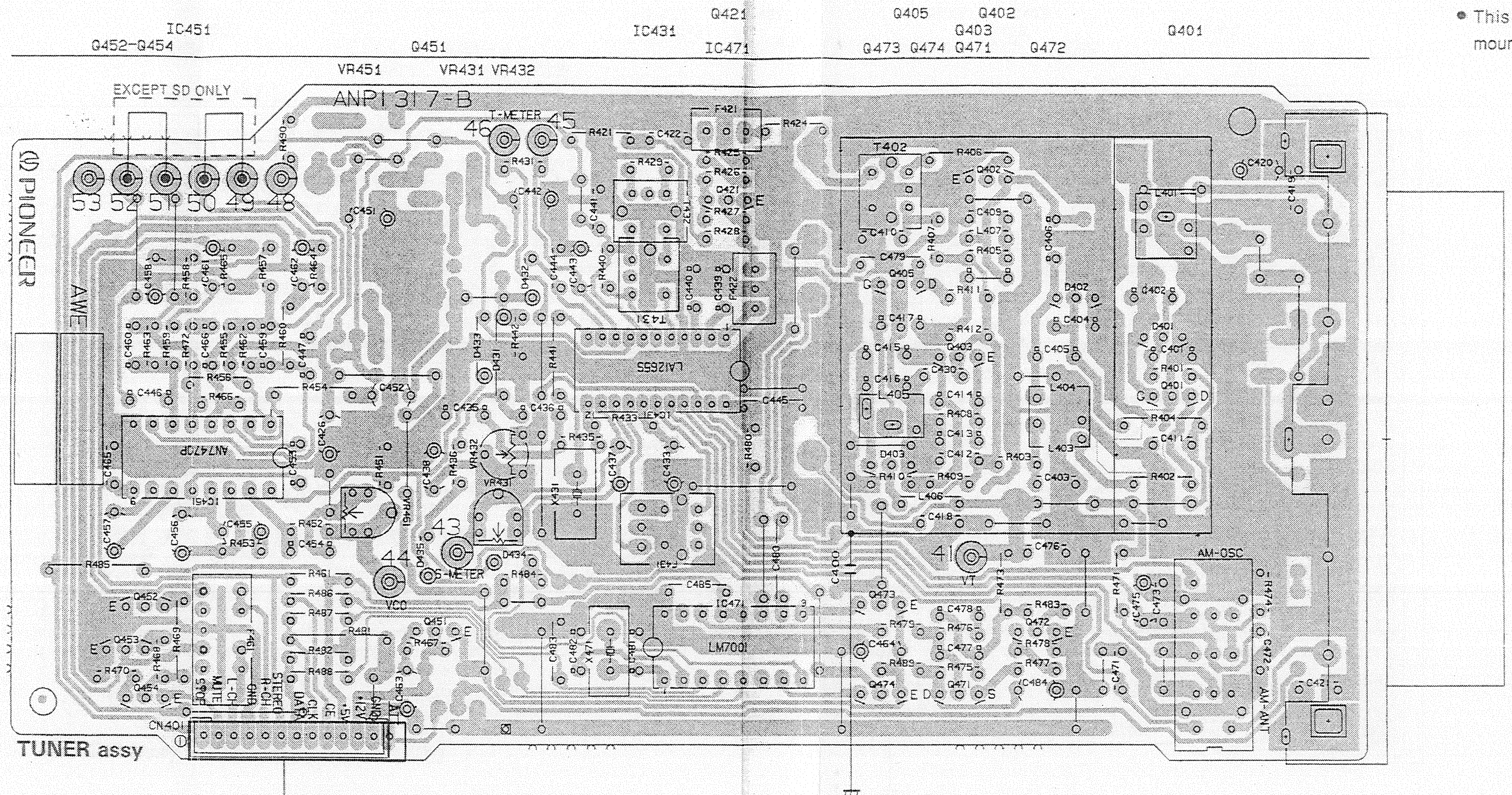
A/V FUNCTION assy

To AUDIO FUNCTION assy J12

From AUDIO FUNCTION assy J13

5.3 TUNER ASSY, A/V FUNCTION ASSY AND PREOUT • POWER IN ASSY

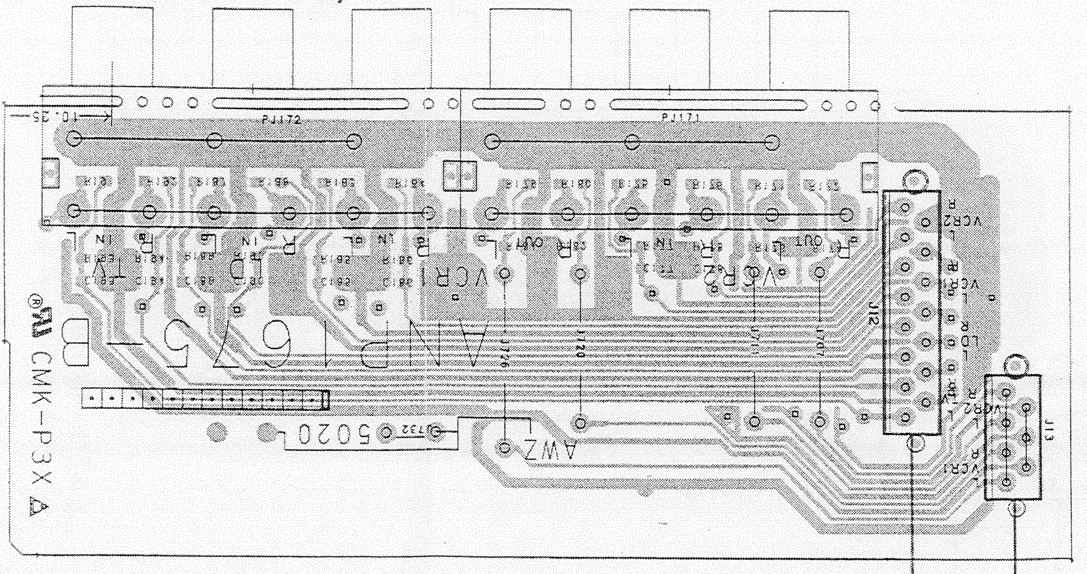
- This diagram is viewed from the mounted parts side.


IC451
Q452–Q454
Q451
VR451
VR431 VR432
IC431
Q421
IC471
Q405
Q402
Q403
Q473 Q474 Q471
Q472
Q401
EXCEPT SD ONLY
ANP1317-B
T-METER
PIONEER
AWE
AN7470P
LA1265S
LM7001
T402
T431
S-METER
VCO
VT
AM-OSC
AM-ANT
CN401
MUTE
L-CH
GND
STEREO
R-CH
CLK
DATA
CE

TUNER assy

To MOTHER (2) assy CN57

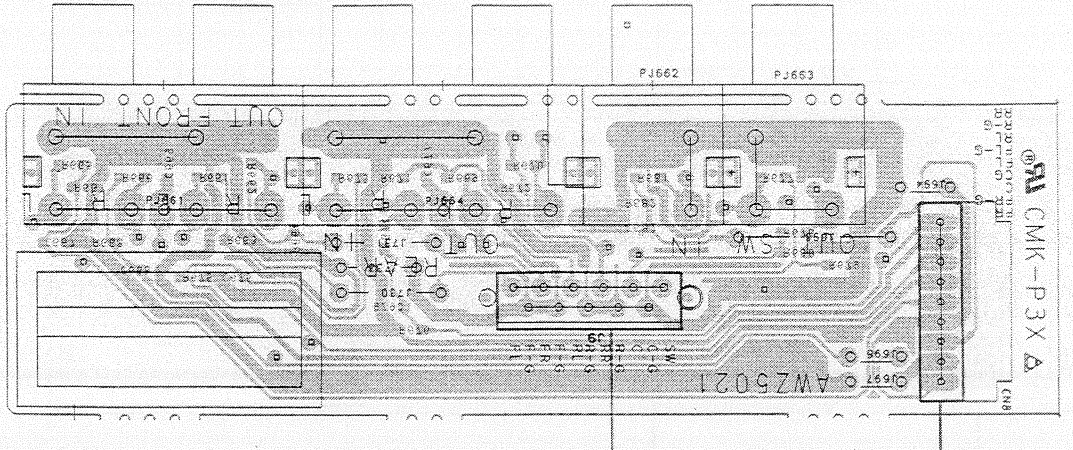
A/V FUNCTION assy


PJ172
PJ171
VCR1
VCR2
J12
J13
ANP1675
AWZ5020
CMK-P3X

To AUDIO FUNCTION assy J12

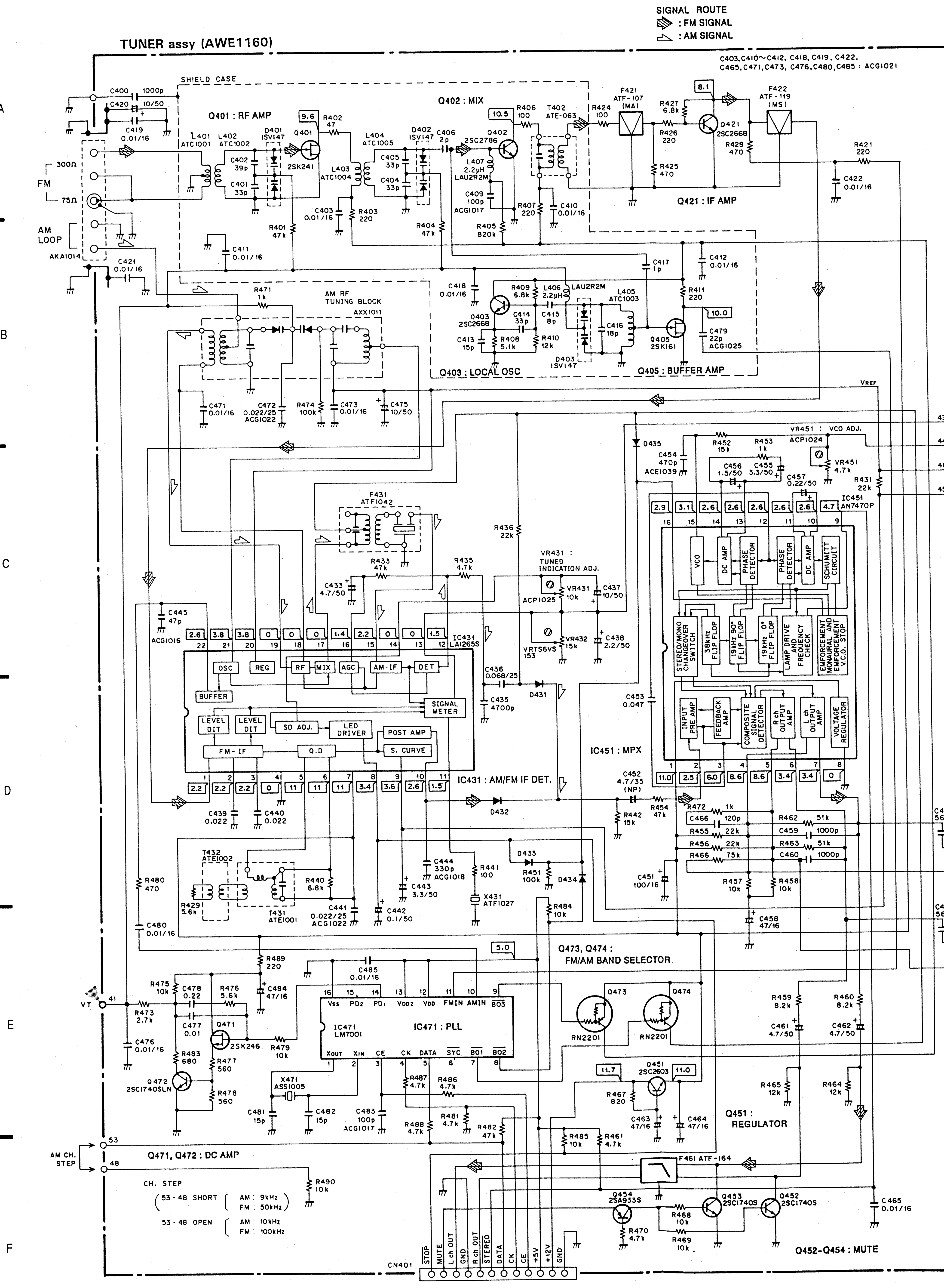
From AUDIO FUNCTION assy J13

PREOUT • POWER IN assy


PJ662
PJ663
OUT FRONT IN
SW OUT
AWZ5021
CMK-P3X
CN8
CN9

From VR assy CN9

To POWER AMP assy J8


TUNER assy (AWE1160)
SIGNAL ROUTE
: FM SIGNAL
: AM SIGNAL
C403, C410~C412, C418, C419, C422, C465, C471, C473, C476, C480, C485 : ACG1021
SHIELD CASE
Q401 : RF AMP
Q402 : MIX
Q421 : IF AMP
Q403 : LOCAL OSC
Q405 : BUFFER AMP
FM 300Ω 75Ω
AM LOOP
AKA1014
C400 1000p
C420 10/50
C419 0.01/16
L401 ATC1001
L402 ATC1002
D401 1SV147
Q401 2SK241
R402 47
C402 39p
C401 33p
R401 47k
C411 0.01/16
L403 ATC1004
L404 ATC1005
C405 33p
C404 33p
C403 0.01/16
R403 220
D402 1SV147
C406 2p
Q402 2SC2786
L407 2.2μH LAU2R2M
C409 100p ACG1017
R404 47k
R405 820k
R406 100
T402 ATE-063
R407 220
C410 0.01/16
R424 100
F421 ATF-107 (MA)
R427 6.8k
R426 220
R425 470
Q421 2SC2668
R428 470
F422 ATF-119 (MS)
R421 220
C422 0.01/16
C421 0.01/16
C417 1p
C412 0.01/16
C418 0.01/16
R409 6.8k
L406 2.2μH LAU2R2M
L405 ATC1003
Q403 2SC2668
C414 33p
C415 8p
C416 18p
C413 15p
R408 5.1k
R410 12k
D403 1SV147
R411 220
Q405 2SK161
C479 22p ACG1025
R471 1k
AM RF TUNING BLOCK AXX1011
C471 0.01/16
C472 0.022/25 ACG1022
R474 100k
C473 0.01/16
C475 10/50
VREF
D435
C454 470p ACE1039
R452 15k
R453 1k
C456 1.5/50
C455 3.3/50
C457 0.22/50
VR451 : VCO ADJ. ACP1024
VR451 4.7k
R431 22k
IC451 AN7470P
VCO
DC AMP
PHASE DETECTOR
SCHUMITT CIRCUIT
STEREO/MONO CHANGEOVER SWITCH
38kHz FLIP FLOP
19kHz 90° FLIP FLOP
19kHz 0° FLIP FLOP
LAMP DRIVE AND FREQUENCY CHECK
ENFORCEMENT MONAURAL AND ENFORCEMENT V.C.O. STOP
INPUT PRE AMP
FEEDBACK AMP
COMPOSITE SIGNAL DETECTOR
R ch OUTPUT AMP
L ch OUTPUT AMP
VOLTAGE REGULATOR
IC451 : MPX
F431 ATF1042
R436 22k
VR431 : TUNED INDICATION ADJ.
VR431 10k ACP1025
C437 10/50
VR432 15k VRTS6VS 153
C438 2.2/50
R433 47k
C433 4.7/50
R435 4.7k
C445 47p ACG1016
IC431 LA1265S
OSC
REG
RF
MIX
AGC
AM-IF
DET
BUFFER
SIGNAL METER
LEVEL DIT
SD ADJ.
LED DRIVER
POST AMP
FM-IF
Q.D
S. CURVE
IC431 : AM/FM IF DET.
C436 0.068/25
C435 4700p
D431
C453 0.047
C452 4.7/35 (NP)
R442 15k
R454 47k
D432
C439 0.022
C440 0.022
T432 ATE1002
R429 5.6k
T431 ATE1001
R440 6.8k
C441 0.022/25 ACG1022
C442 0.1/50
C443 3.3/50
C444 330p ACG1018
R441 100
X431 ATF1027
D433
R451 100k
D434
R484 10k
R480 470
C480 0.01/16
R472 1k
C466 120p
R462 51k
R455 22k
C459 1000p
R456 22k
R463 51k
R466 75k
C460 1000p
C451 100/16
R457 10k
R458 10k
C458 47/16
R489 220
C485 0.01/16
C484 47/16
Q473, Q474 : FM/AM BAND SELECTOR
VT 41
R475 10k
C478 0.22
R476 5.6k
R473 2.7k
C477 0.01
Q471 2SK246
R479 10k
C476 0.01/16
R483 680
R477 560
Q472 2SC1740SLN
R478 560
IC471 LM7001
IC471 : PLL
Vss PD2 PD1 VDD2 VDD FMIN AMIN BO3
XOUT XIN CE CK DATA SYC BO1 BO2
X471 ASS1005
C481 15p
C482 15p
C483 100p ACG1017
R487 4.7k
R486 4.7k
R488 4.7k
R481 4.7k
R482 47k
Q473 RN2201
Q474 RN2201
Q451 2SC2603
R467 820
C463 47/16
C464 47/16
Q451 : REGULATOR
R485 10k
R461 4.7k
R459 8.2k
R460 8.2k
C461 4.7/50
C462 4.7/50
R465 12k
R464 12k
AM CH. STEP 53 48
Q471, Q472 : DC AMP
CH. STEP
53 - 48 SHORT (AM : 9kHz FM : 50kHz)
53 - 48 OPEN (AM : 10kHz FM : 100kHz)
R490 10k
F461 ATF-164
Q454 2SA933S
Q453 2SC1740S
Q452 2SC1740S
R468 10k
R469 10k
R470 4.7k
C465 0.01/16
Q452-Q454 : MUTE
CN401
STOP MUTE L ch OUT GND R ch OUT STEREO DATA CK CE +5V +12V GND
2.6 3.8 3.8 0 0 0 1.4 2.2 0 0 1.5
2.2 2.2 2.2 0 11 11 11 3.4 3.6 2.6 1.5
2.9 3.1 2.6 2.6 2.6 2.6 2.6 4.7
11.0 2.5 6.0 8.6 8.6 3.4 3.4 0
9.6 10.5 8.1 10.0 5.0 11.7 11.0

To MOTHER (2) assy CN57 (→SCH-10)

NOTE : VOLTAGE AND CURRENT

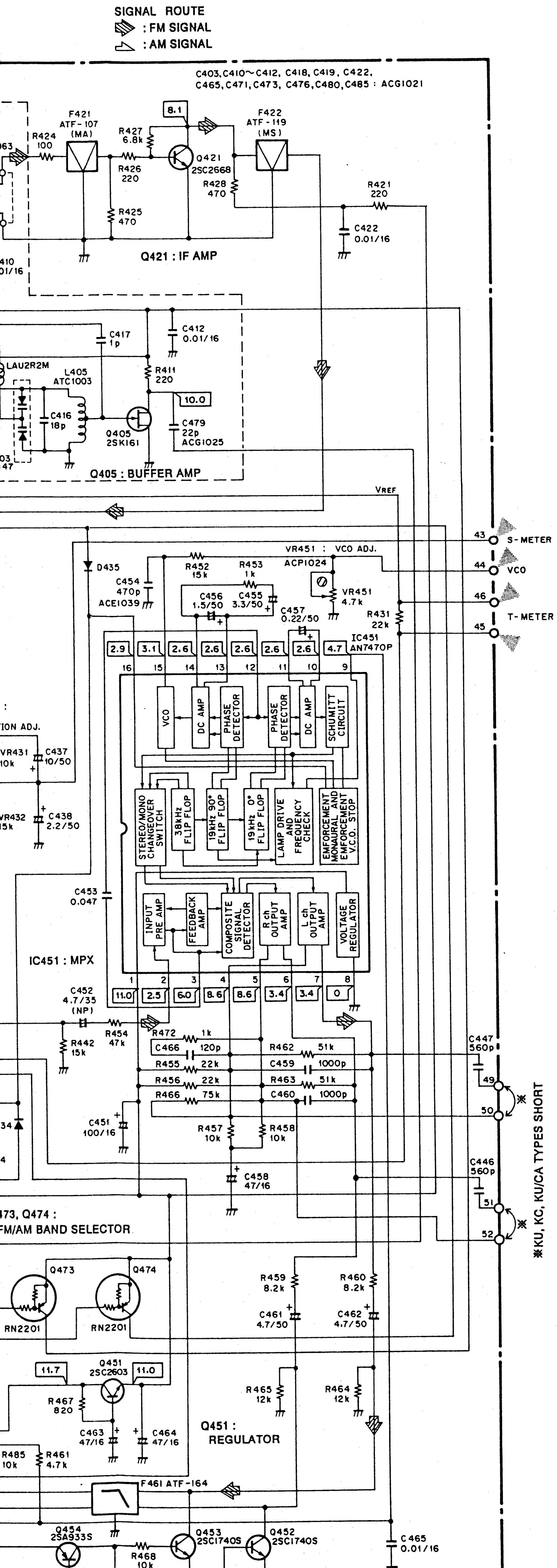
mV : Signal voltage at FM 1kHz, 100% MOD.

or − V : DC voltage (V) at no input signal unless otherwise noted. Value in ( ) is DC voltage at rated power.

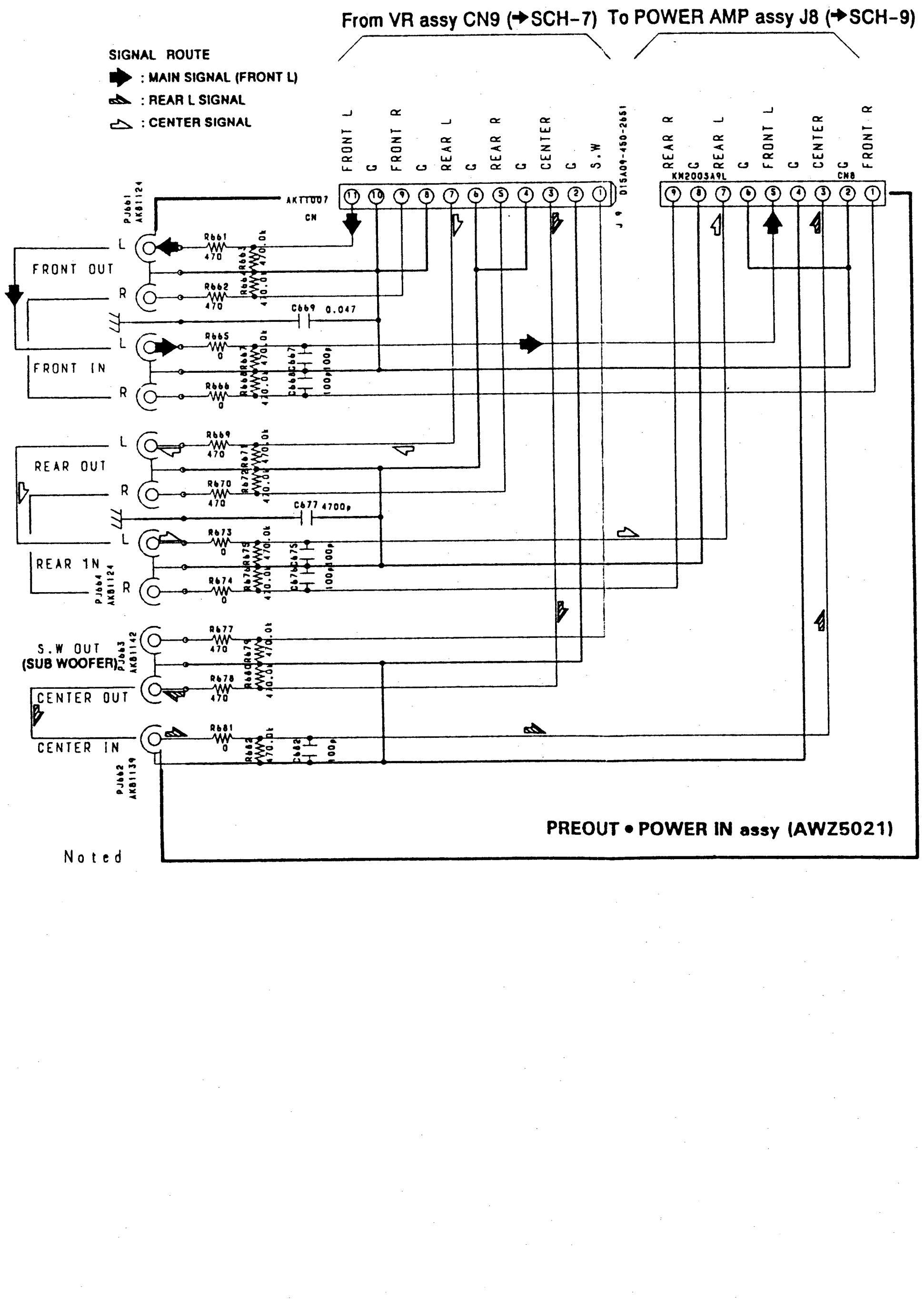
⇦ mA or − mA : DC current at no input signal unless otherwise noted.

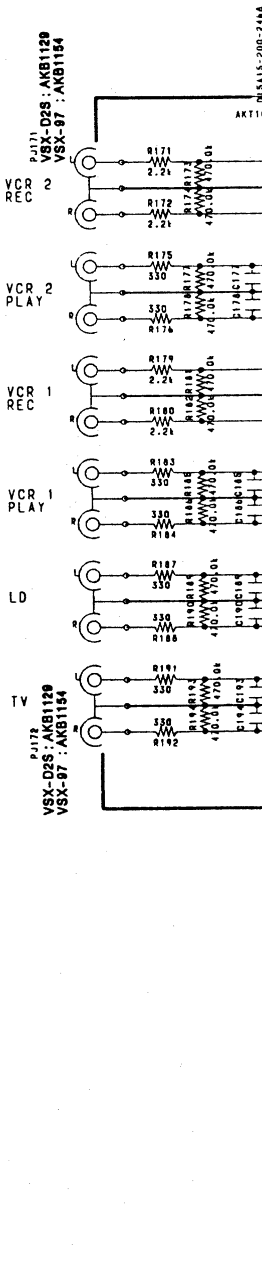
SCH−3

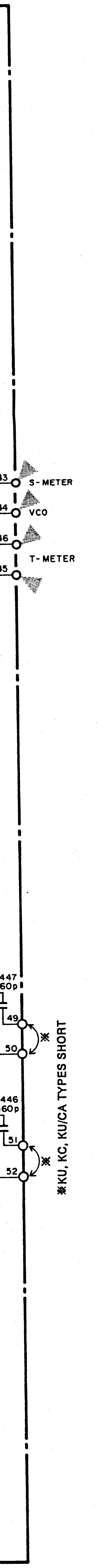
TUNER ASSY, A/V FUNCTION ASSY, PREOUT • POWER IN ASSY

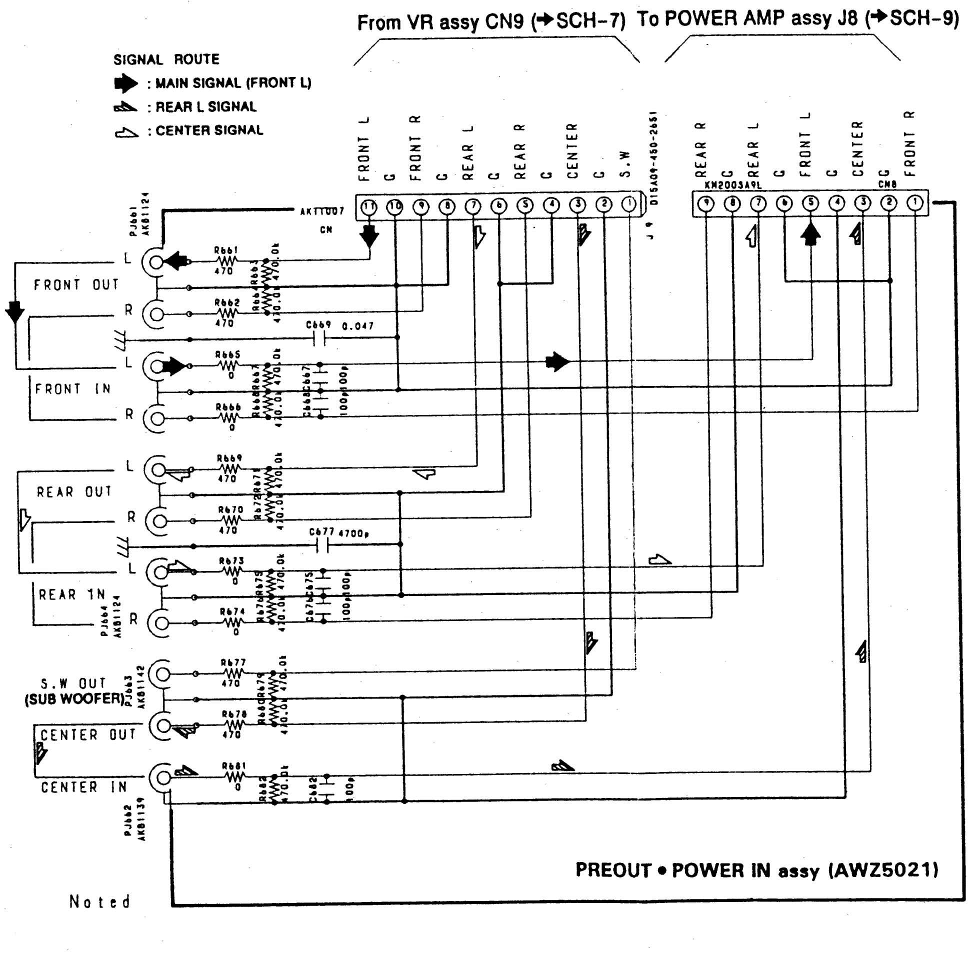

SIGNAL ROUTE
: FM SIGNAL
: AM SIGNAL
C403, C410~C412, C418, C419, C422, C465, C471, C473, C476, C480, C485 : ACG1021
F421 ATF-107 (MA)
F422 ATF-119 (MS)
R424 100
R427 6.8k
R426 220
R425 470
8.1
Q421 2SC2668
R428 470
R421 220
C422 0.01/16
Q421 : IF AMP
C417 1p
C412 0.01/16
LAU2R2M
L405 ATC1003
R411 220
10.0
C416 18p
Q405 2SK161
C479 22p ACG1025
Q405 : BUFFER AMP
VREF
D435
C454 470p ACE1039
R452 15k
R453 1k
VR451 : VCO ADJ.
ACP1024
C456 1.5/50
C455 3.3/50
VR451 4.7k
C457 0.22/50
R431 22k
IC451 AN7470P
43 S-METER
44 VCO
46 T-METER
45
2.9 3.1 2.6 2.6 2.6 2.6 2.6 4.7
16 15 14 13 12 11 10 9
VCO
DC AMP
PHASE DETECTOR
PHASE DETECTOR
DC AMP
SCHUMITT CIRCUIT
STEREO/MONO CHANGEOVER SWITCH
38kHz FLIP FLOP
19kHz 90° FLIP FLOP
19kHz 0° FLIP FLOP
LAMP DRIVE AND FREQUENCY CHECK
EMFORCEMENT MONAURAL AND ENFORCEMENT V.C.O. STOP
INPUT PRE AMP
FEEDBACK AMP
COMPOSITE SIGNAL DETECTOR
R ch OUTPUT AMP
L ch OUTPUT AMP
VOLTAGE REGULATOR
1 2 3 4 5 6 7 8
11.0 2.5 6.0 8.6 8.6 3.4 3.4 0
ION ADJ.
VR431 10k
C437 10/50
VR432 15k
C438 2.2/50
C453 0.047
IC451 : MPX
C452 4.7/35 (NP)
R442 15k
R454 47k
R472 1k
C466 120p
R462 51k
R455 22k
C459 1000p
R456 22k
R463 51k
R466 75k
C460 1000p
C447 560p
49
50
C451 100/16
R457 10k
R458 10k
C446 560p
C458 47/16
51
52
※KU, KC, KU/CA TYPES SHORT
473, Q474 :
FM/AM BAND SELECTOR
Q473
Q474
RN2201
RN2201
R459 8.2k
R460 8.2k
C461 4.7/50
C462 4.7/50
Q451 2SC2603
11.7
11.0
R467 820
R465 12k
R464 12k
C463 47/16
C464 47/16
Q451 : REGULATOR
R485 10k
R461 4.7k
F461 ATF-164
Q454 2SA933S
Q453 2SC1740S
Q452 2SC1740S
R468 10k
R469 10k
R470 4.7k
C465 0.01/16
Q452-Q454 : MUTE
H-10)

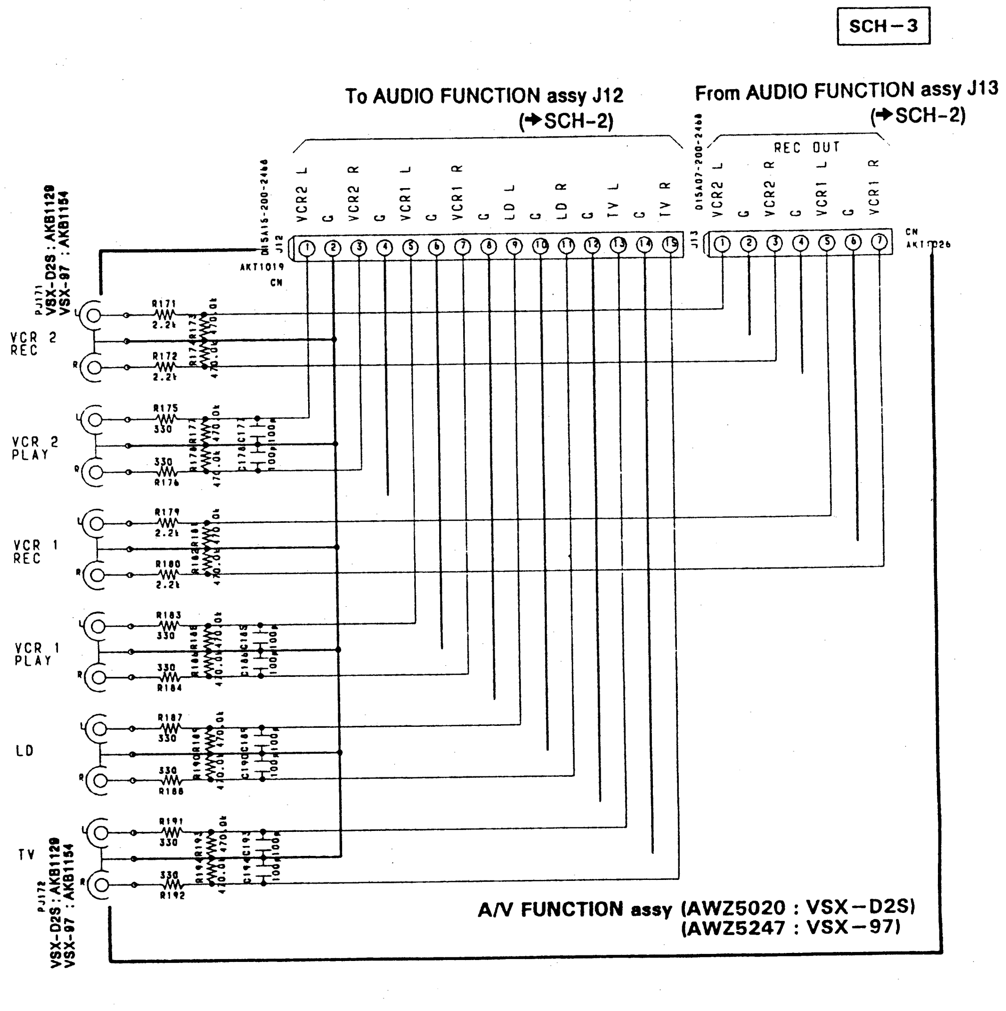
NOTE: VOLTAGE AND CURRENT
mV : Signal voltage at FM 1kHz, 100% MOD.
or − V :
DC voltage (V) at no input signal unless otherwise noted.
Value in ( ) is DC voltage at rated power.
⇦ mA or − mA :
DC current at no input signal unless otherwise noted.


From VR assy CN9 (→SCH-7)
To POWER AMP assy J8 (→SCH-9)
SIGNAL ROUTE
: MAIN SIGNAL (FRONT L)
: REAR L SIGNAL
: CENTER SIGNAL
FRONT L
G
FRONT R
G
REAR L
G
REAR R
G
CENTER
G
S.W
REAR R
G
REAR L
G
FRONT L
G
CENTER
G
FRONT R
AKT1007
CN
KN2003A9L
CN8
FRONT OUT
FRONT IN
REAR OUT
REAR IN
S.W OUT (SUB WOOFER)
CENTER OUT
CENTER IN
C669 0.047
C677 4700p
PREOUT • POWER IN assy (AWZ5021)
Noted


PJ171 VSX-D2S : AKB1129 VSX-97 : AKB1154
VCR 2 REC
VCR 2 PLAY
VCR 1 REC
VCR 1 PLAY
LD
TV
PJ172 VSX-D2S : AKB1129 VSX-97 : AKB1154


S-METER
VCO
T-METER
447
60p
49
50
446
60p
51
52
※KU, KC, KU/CA TYPES SHORT

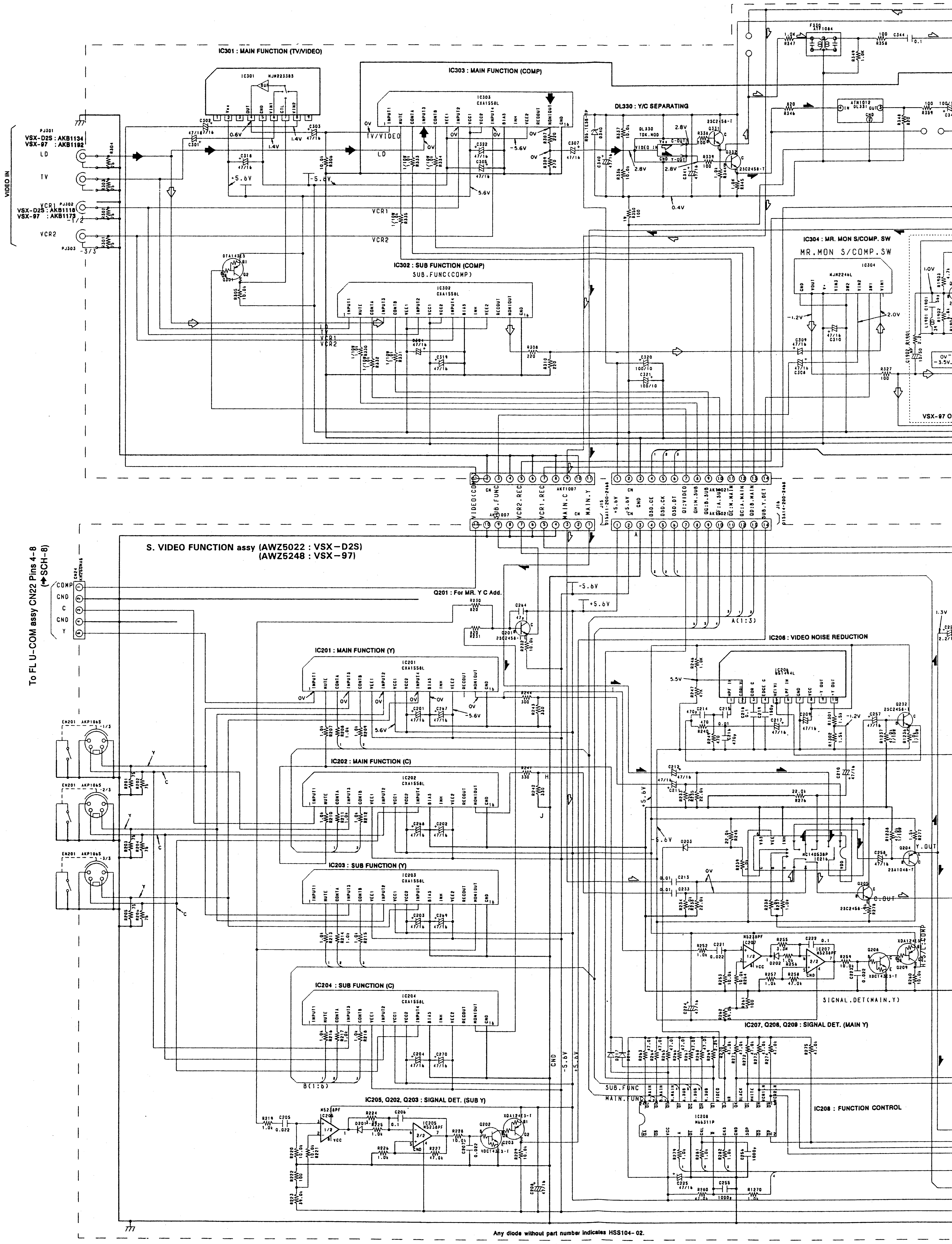

From VR assy CN9 (➔SCH-7)
To POWER AMP assy J8 (➔SCH-9)
SIGNAL ROUTE
: MAIN SIGNAL (FRONT L)
: REAR L SIGNAL
: CENTER SIGNAL
FRONT L
G
FRONT R
G
REAR L
G
REAR R
G
CENTER
G
S.W
REAR R
G
REAR L
G
FRONT L
G
CENTER
G
FRONT R
AKT1007
CN
J9
KM200349L
CN8
PJ661
AKB1124
FRONT OUT
FRONT IN
REAR OUT
REAR IN
S.W OUT
(SUB WOOFER)
CENTER OUT
CENTER IN
L
R
R661 470
R662 470
R665 0
R666
R669 470
R670 470
R673 0
R674
R677 470
R678 470
R681 0
C669 0.047
C677 4700p
PJ664 AKB1124
PJ663 AKB1142
PJ662 AKB1139
Noted
PREOUT • POWER IN assy (AWZ5021)


SCH-3
To AUDIO FUNCTION assy J12
(➔SCH-2)
From AUDIO FUNCTION assy J13
(➔SCH-2)
REC OUT
VCR2 L
G
VCR2 R
G
VCR1 L
G
VCR1 R
G
LD L
G
LD R
G
TV L
G
TV R
VCR2 L
G
VCR2 R
G
VCR1 L
G
VCR1 R
J12
J13
AKT1019
CN
AKT1026
PJ171
VSX-D2S : AKB1120
VSX-97 : AKB1154
VCR 2 REC
VCR 2 PLAY
VCR 1 REC
VCR 1 PLAY
LD
TV
R171 2.2k
R172 2.2k
R175 330
R176 330
R179 2.2k
R180 2.2k
R183 330
R184 330
R187 330
R188 330
R191 330
R192 330
PJ172
VSX-D2S : AKB1120
VSX-97 : AKB1154
A/V FUNCTION assy (AWZ5020 : VSX-D2S)
(AWZ5247 : VSX-97)

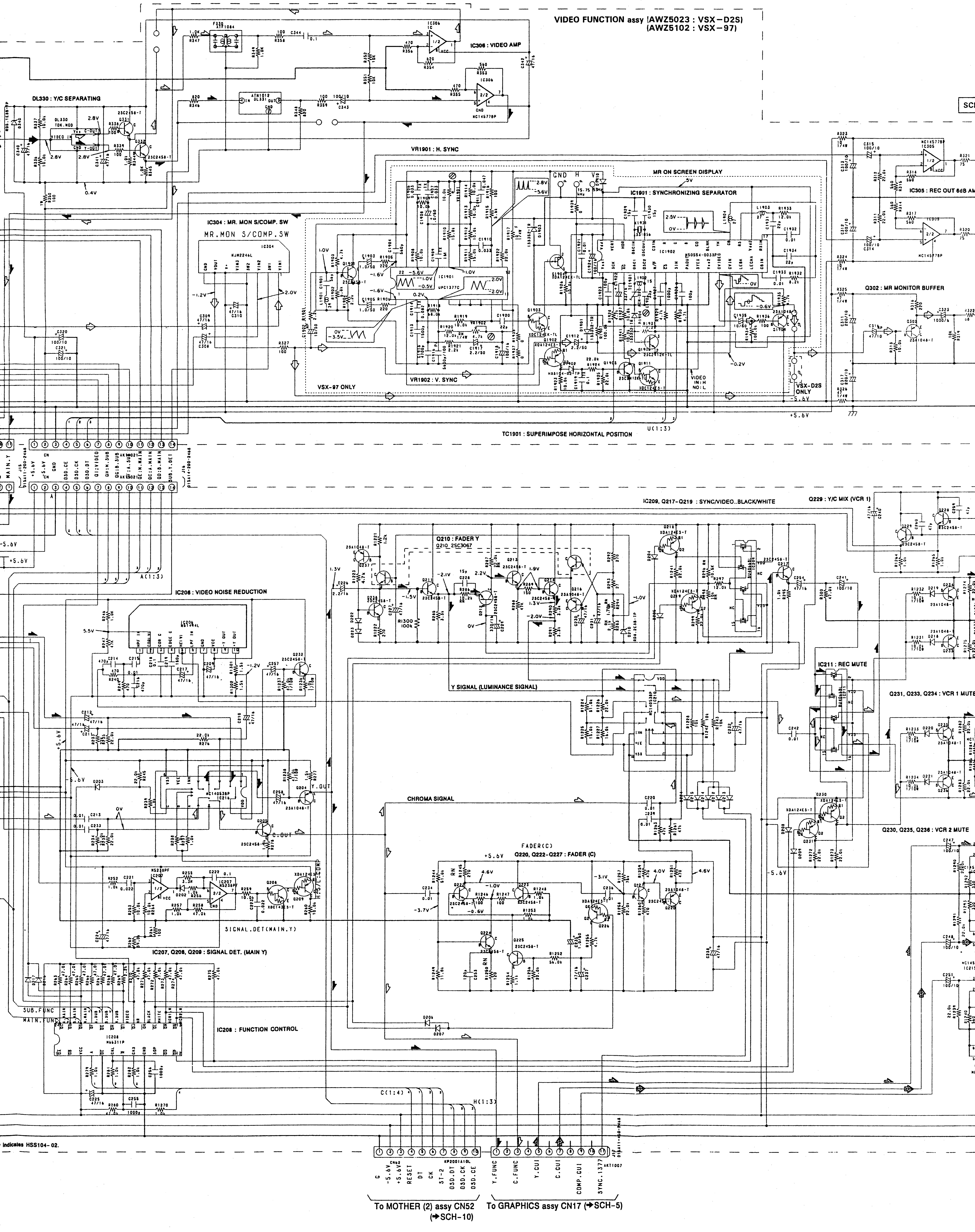
TUNER ASSY, A/V FUNCTION ASSY,
PREOUT • POWER IN ASSY

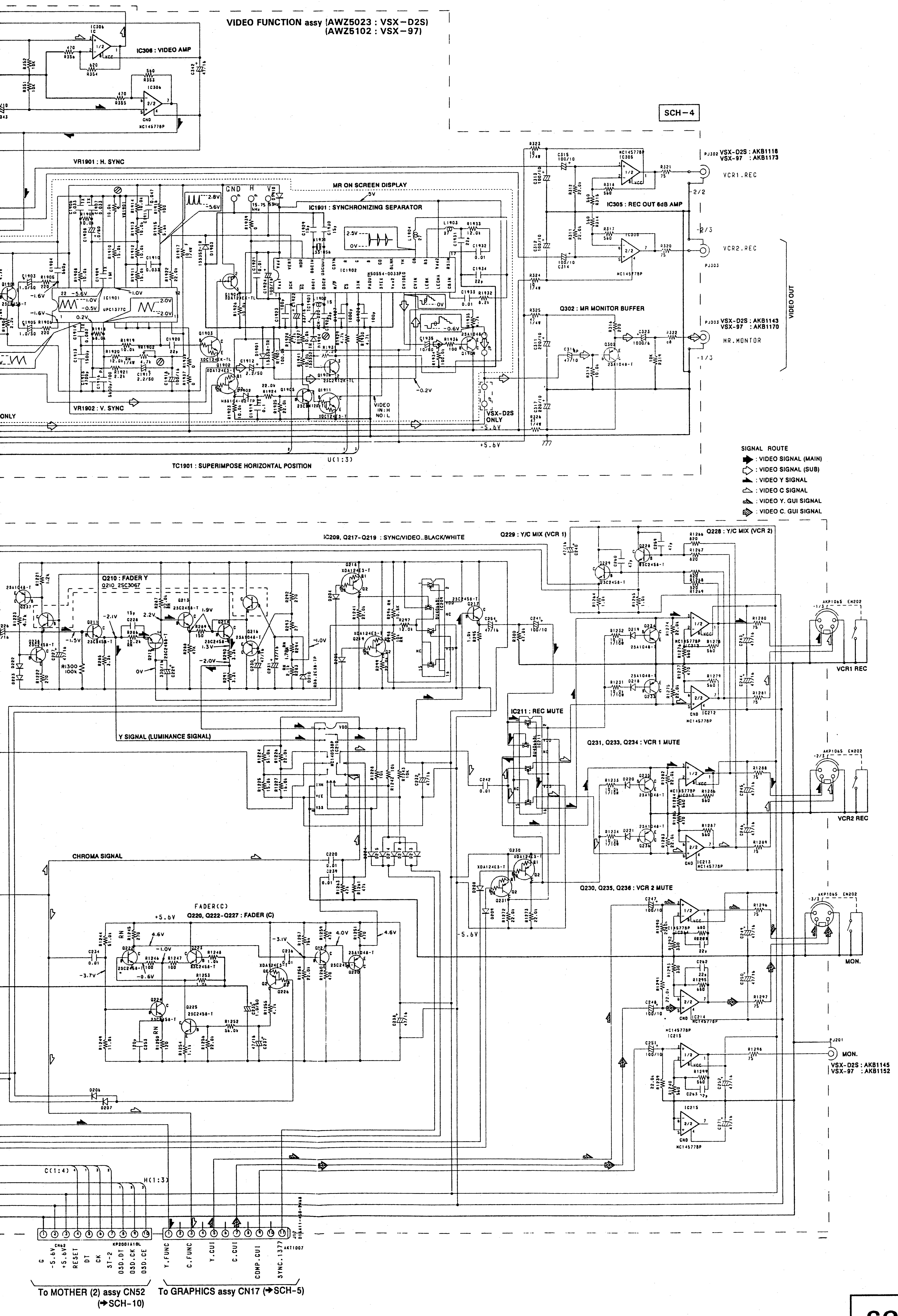
SCH-3

5.4 VIDEO FUNCTION ASSY AND S. VIDEO FUNCTION ASSY


IC301 : MAIN FUNCTION (TV/VIDEO)
IC301 NJM2233BS
IC303 : MAIN FUNCTION (COMP)
IC303 CXA1558L
DL330 : Y/C SEPARATING
DL330 TDK.MOD
IC302 : SUB FUNCTION (COMP)
SUB.FUNC(COMP)
IC302 CXA1558L
IC304 : MR. MON S/COMP. SW
MR.MON S/COMP.SW
IC304 NJM2246L
VSX-97 O
VIDEO IN
PJ301
VSX-D2S : AKB1134
VSX-97 : AKB1192
LD
TV
VCR1
PJ302
VSX-D2S : AKB1118
VSX-97 : AKB1173
VCR2
PJ303
TV/VIDEO
VIDEO(COMP)
SUB.FUNC
VCR2.REC
VCR1.REC
MAIN.C
MAIN.Y
+5.6V
GND
OSD.CE
OSD.CK
OSD.DT
Q1:VIDEO
Q0:H.SUB
Q2:B.SUB
Q3:A.SUB
Q4:A.MAIN
Q5:B.MAIN
SUB.Y.DET
AKF1007
To FL U-COM assy CN22 Pins 4-8 (→SCH-8)
COMP
GND
C
GND
Y
S. VIDEO FUNCTION assy (AWZ5022 : VSX-D2S)
(AWZ5248 : VSX-97)
Q201 : For MR. Y C Add.
IC201 : MAIN FUNCTION (Y)
IC201 CXA1558L
IC202 : MAIN FUNCTION (C)
IC202 CXA1558L
IC203 : SUB FUNCTION (Y)
IC203 CXA1558L
IC204 : SUB FUNCTION (C)
IC204 CXA1558L
IC205, Q202, Q203 : SIGNAL DET. (SUB Y)
IC206 : VIDEO NOISE REDUCTION
IC207, Q208, Q209 : SIGNAL DET. (MAIN Y)
SIGNAL.DET(MAIN.Y)
IC208 : FUNCTION CONTROL
IC208 M66311P
SUB.FUNC
MAIN.FUNC
EN201 AKP1065
-5.6V
+5.6V
A(1:3)
B(1:6)
Y.OUT
C.OUT

Any diode without part number indicates HSS104-02.


VIDEO FUNCTION assy (AWZ5023 : VSX−D2S)
(AWZ5102 : VSX−97)
IC306 : VIDEO AMP
DL330 : Y/C SEPARATING
VR1901 : H. SYNC
MR ON SCREEN DISPLAY
IC1901 : SYNCHRONIZING SEPARATOR
IC304 : MR. MON S/COMP. SW
MR.MON S/COMP.SW
IC305 : REC OUT 6dB AM
Q302 : MR MONITOR BUFFER
VSX-97 ONLY
VR1902 : V. SYNC
VSX-D2S ONLY
TC1901 : SUPERIMPOSE HORIZONTAL POSITION
IC209, Q217–Q219 : SYNC/VIDEO..BLACK/WHITE
Q229 : Y/C MIX (VCR 1)
Q210 : FADER Y
IC206 : VIDEO NOISE REDUCTION
IC211 : REC MUTE
Y SIGNAL (LUMINANCE SIGNAL)
Q231, Q233, Q234 : VCR 1 MUTE
CHROMA SIGNAL
Q230, Q235, Q236 : VCR 2 MUTE
FADER(C)
Q220, Q222–Q227 : FADER (C)
SIGNAL.DET(MAIN.Y)
IC207, Q208, Q209 : SIGNAL DET. (MAIN Y)
IC208 : FUNCTION CONTROL
indicates HSS104-02.
To MOTHER (2) assy CN52 (➔SCH-10)
To GRAPHICS assy CN17 (➔SCH-5)
G
+5.6V
RESET
DT
CK
ST-2
OSD.DT
OSD.CK
OSD.CE
Y.FUNC
C.FUNC
Y.CUI
C.CUI
COMP.CUI
SYNC.1377


VIDEO FUNCTION assy (AWZ5023 : VSX-D2S)
(AWZ5102 : VSX-97)
IC306 : VIDEO AMP
SCH-4
VR1901 : H. SYNC
MR ON SCREEN DISPLAY
IC1901 : SYNCHRONIZING SEPARATOR
IC1902
M50554-003SP
UPC1377C
VR1902 : V. SYNC
TC1901 : SUPERIMPOSE HORIZONTAL POSITION
VIDEO IN : H NO : L
VSX-D2S ONLY
IC305 : REC OUT 6dB AMP
Q302 : MR MONITOR BUFFER
VSX-D2S : AKB1118
VSX-97 : AKB1173
VCR1.REC
VCR2.REC
VSX-D2S : AKB1143
VSX-97 : AKB1170
MR.MONTOR
VIDEO OUT
SIGNAL ROUTE
: VIDEO SIGNAL (MAIN)
: VIDEO SIGNAL (SUB)
: VIDEO Y SIGNAL
: VIDEO C SIGNAL
: VIDEO Y. GUI SIGNAL
: VIDEO C. GUI SIGNAL
IC209, Q217-Q219 : SYNC/VIDEO..BLACK/WHITE
Q229 : Y/C MIX (VCR 1)
Q228 : Y/C MIX (VCR 2)
Q210 : FADER Y
Q210 2SC3067
Y SIGNAL (LUMINANCE SIGNAL)
IC210
IC211 : REC MUTE
Q231, Q233, Q234 : VCR 1 MUTE
VCR1 REC
VCR2 REC
CHROMA SIGNAL
FADER(C)
Q220, Q222-Q227 : FADER (C)
Q230, Q235, Q236 : VCR 2 MUTE
MON.
IC212
IC213
IC214
IC215
MC14S778P
AKP1065 EN202
J201
VSX-D2S : AKB1145
VSX-97 : AKB1152
C(1:4)
H(1:3)
U(1:3)
CN52
KP200TA10L
G
-5.6V
+5.6V
RESET
DT
CK
ST-2
OSD.DT
OSD.CK
OSD.CE
Y.FUNC
C.FUNC
Y.CUI
C.CUI
G
COMP.CUI
G
SYNC.1377
J17
AKT1007
To MOTHER (2) assy CN52 (➔SCH-10)
To GRAPHICS assy CN17 (➔SCH-5)

A

B

C

D

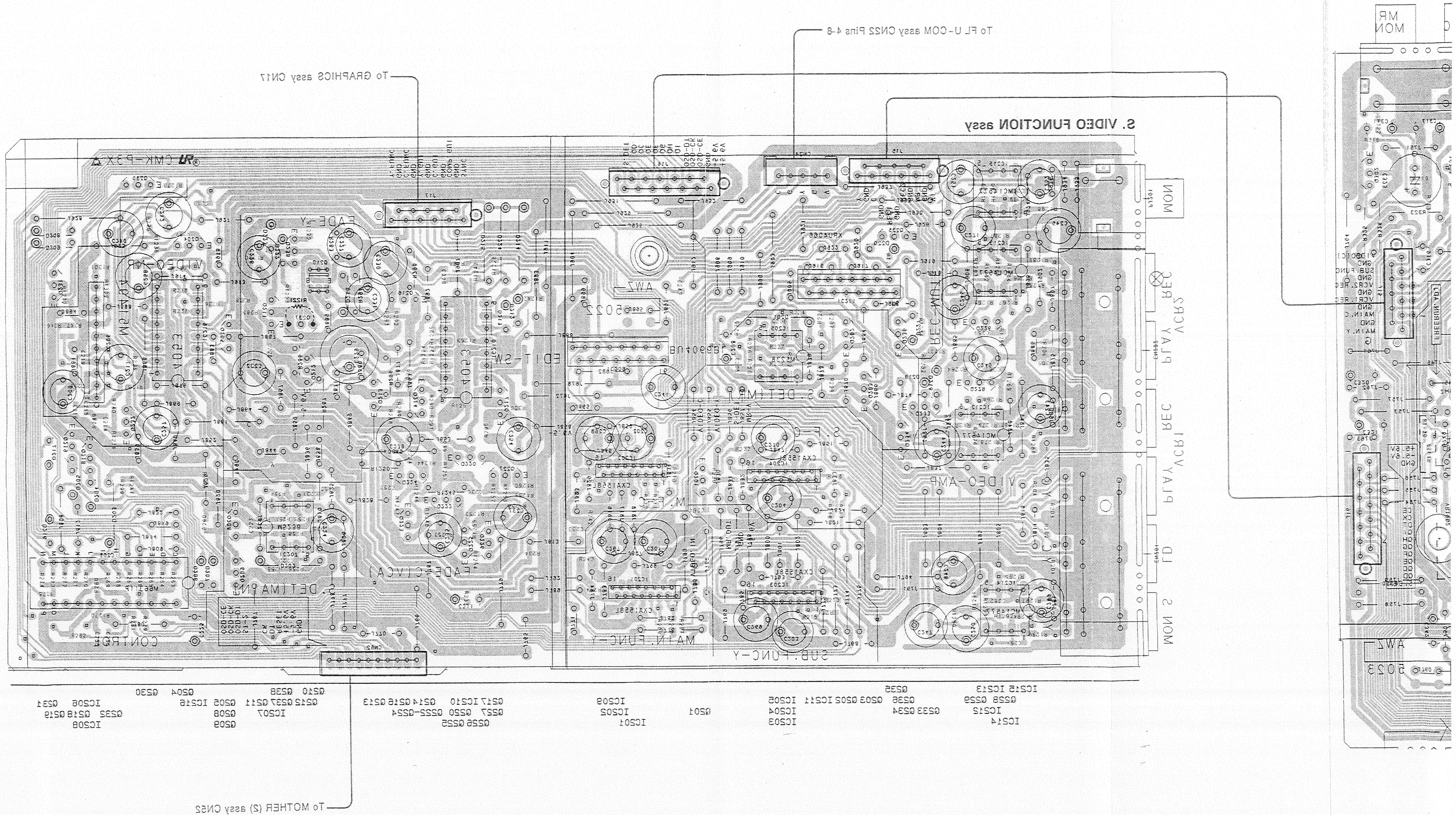
E

F

SCH-4

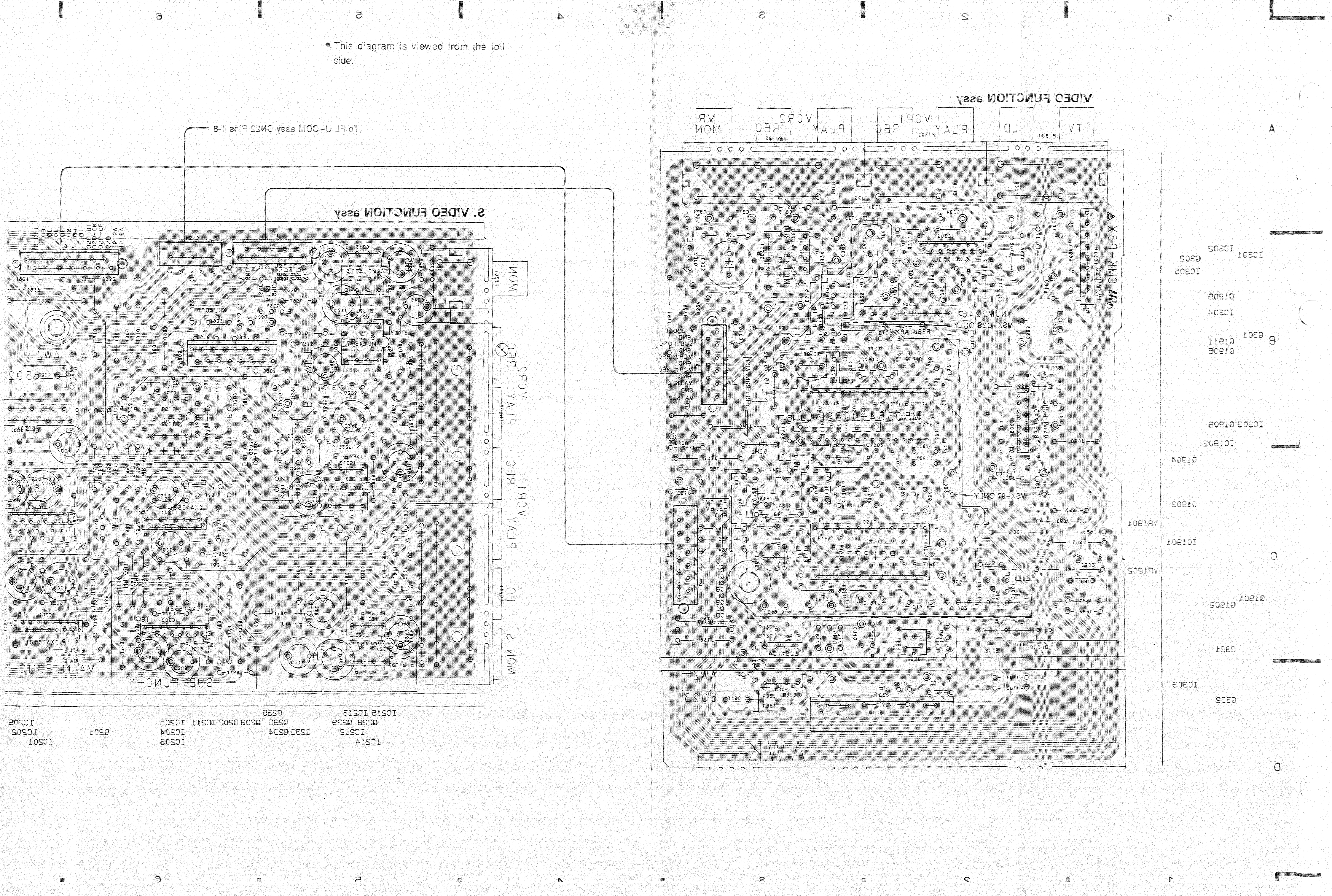
VIDEO FUNCTION ASSY, S. VIDEO FUNCTION ASSY

- This diagram is viewed from the foil side.



S. VIDEO FUNCTION assy

- This diagram is viewed from the foil side.

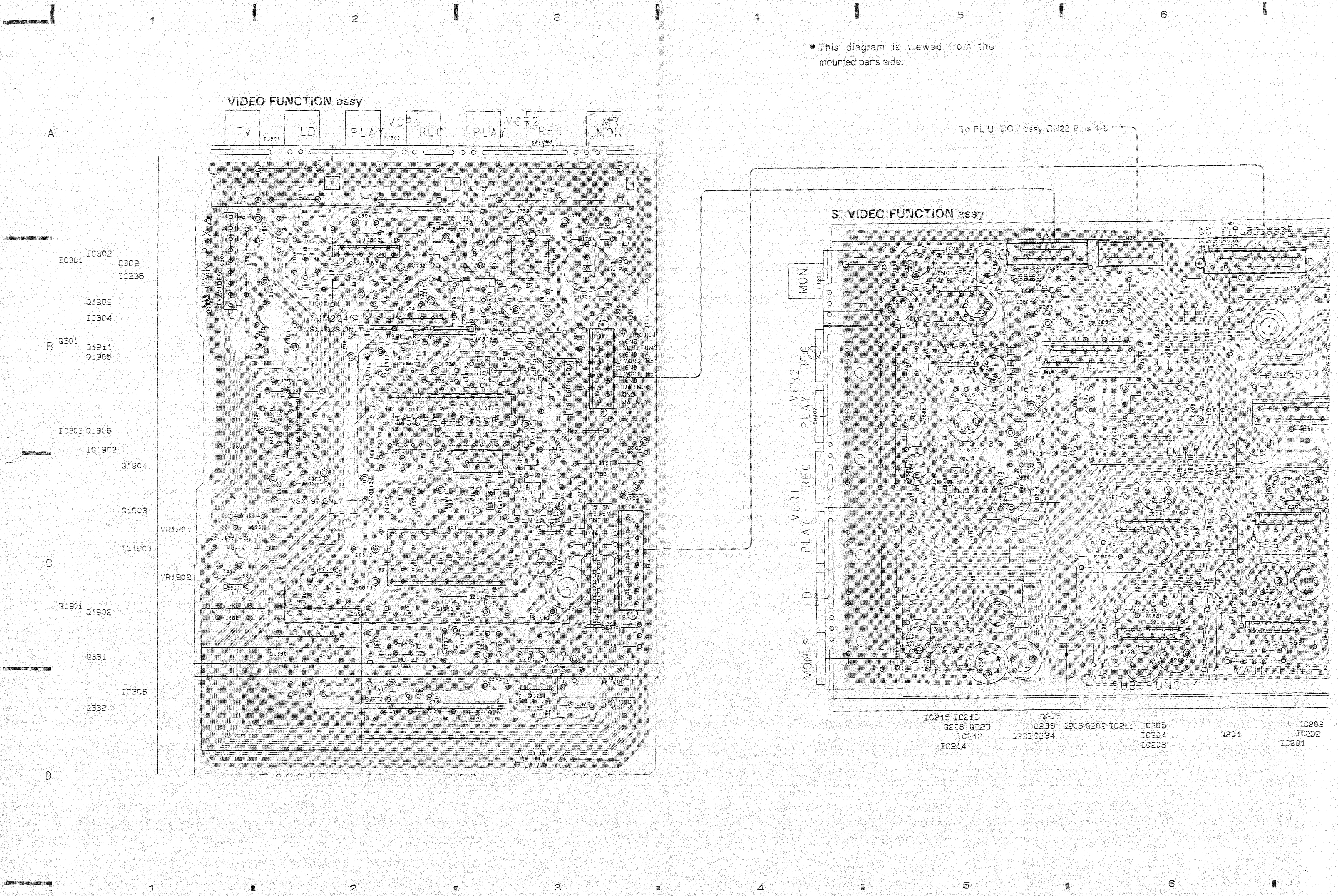


1
2
3
4
5
6
A
B
C
D
VIDEO FUNCTION assy
S. VIDEO FUNCTION assy
To FL U-COM assy CN22 Pins 4-8
TV
LD
VCR1 PLAY
VCR1 REC
VCR2 PLAY
VCR2 REC
MR MON
MON
PLAY VCR2 REC
PLAY VCR1 REC
LD
MON S
S. DET IMR
VIDEO AMP
REC MUTE
MAIN. FUNC-Y
SUB. FUNC-Y
AWZ
AWK
VSX-D2S ONLY
VSX-97 ONLY
IC301 IC302 Q302 IC305
Q1909
IC304
Q301 Q1911 Q1910
IC303 Q1906 Q1908
IC1902
Q1904
Q1903
VR1901
IC1901
VR1902
Q1901 Q1905
Q331
IC306
Q332
IC206 IC205 IC202 IC201
Q201
IC205 IC211 Q202 Q203 Q205 Q235
IC204
IC203
Q233 Q234
IC215 IC213
Q228 Q229
IC212
IC214

- This diagram is viewed from the mounted parts side.

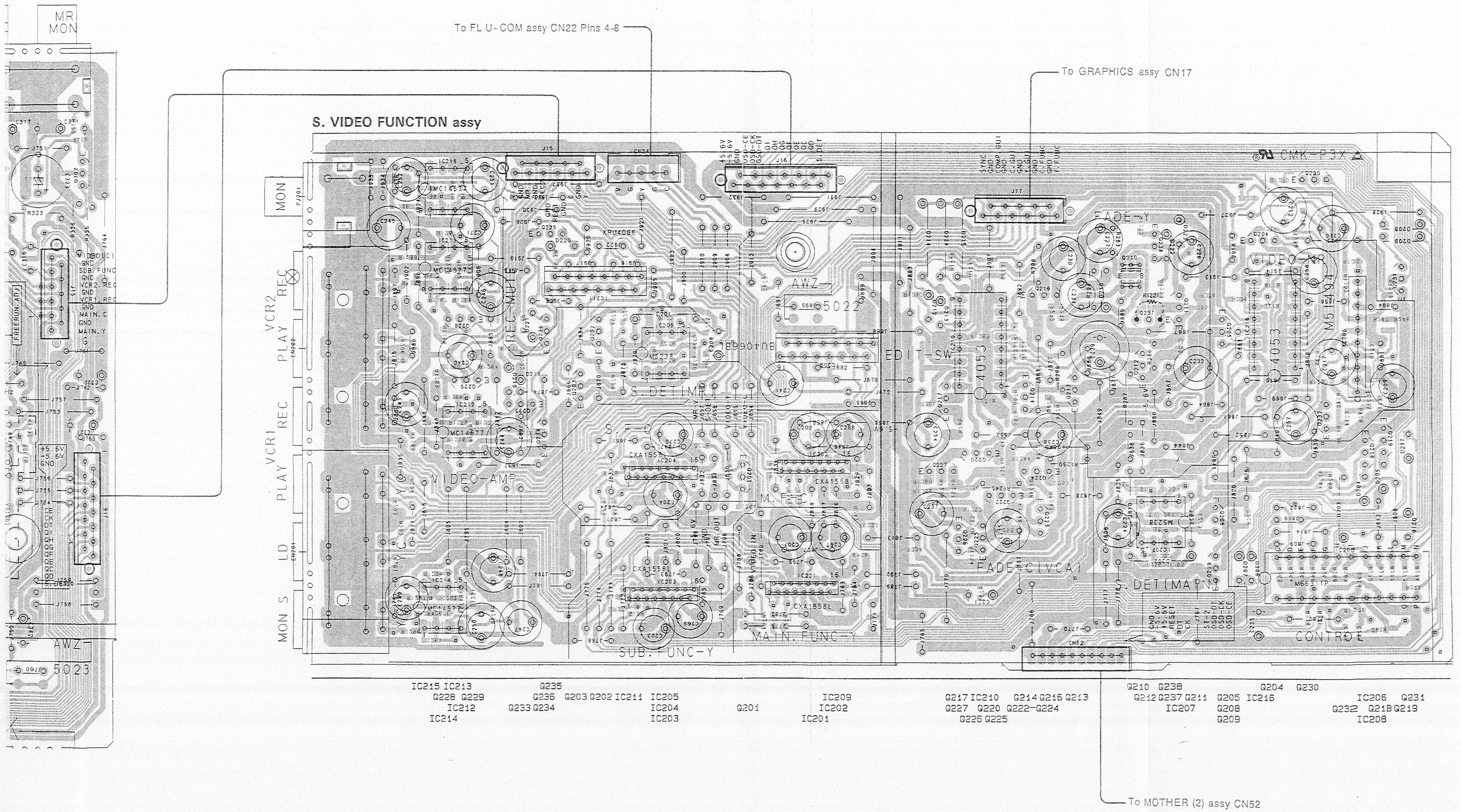
VIDEO FUNCTION assy

S. VIDEO FUNCTION assy


1
2
3
4
5
6
A
B
C
D
To FL U-COM assy CN22 Pins 4-8
TV
LD
VCR1
PLAY
REC
VCR2
PLAY
REC
MR
MON
IC301
IC302
Q302
IC305
Q1909
IC304
Q301
Q1911
Q1905
IC303
Q1906
IC1902
Q1904
Q1903
VR1901
IC1901
VR1902
Q1901
Q1902
Q331
IC306
Q332
CXA1558L
NJM2246
VSX-D2S ONLY
MC14577B
UPC1377
VSX-97 ONLY
FREERUN ADJ
AWZ
5023
AWK
MON
MON S
VIDEO-AMP
REC-MUTE
S. DET
M. F
SUB. FUNC-Y
MAIN. FUNC-Y
AWZ
5022
IC215 IC213
Q228 Q229
IC212
IC214
Q235
Q236
Q233 Q234
Q203 Q202 IC211
IC205
IC204
IC203
Q201
IC209
IC202
IC201

PCB-3

- This diagram is viewed from the mounted parts side.



S. VIDEO FUNCTION assy

To FL U-COM assy CN22 Pins 4-8

To GRAPHICS assy CN17

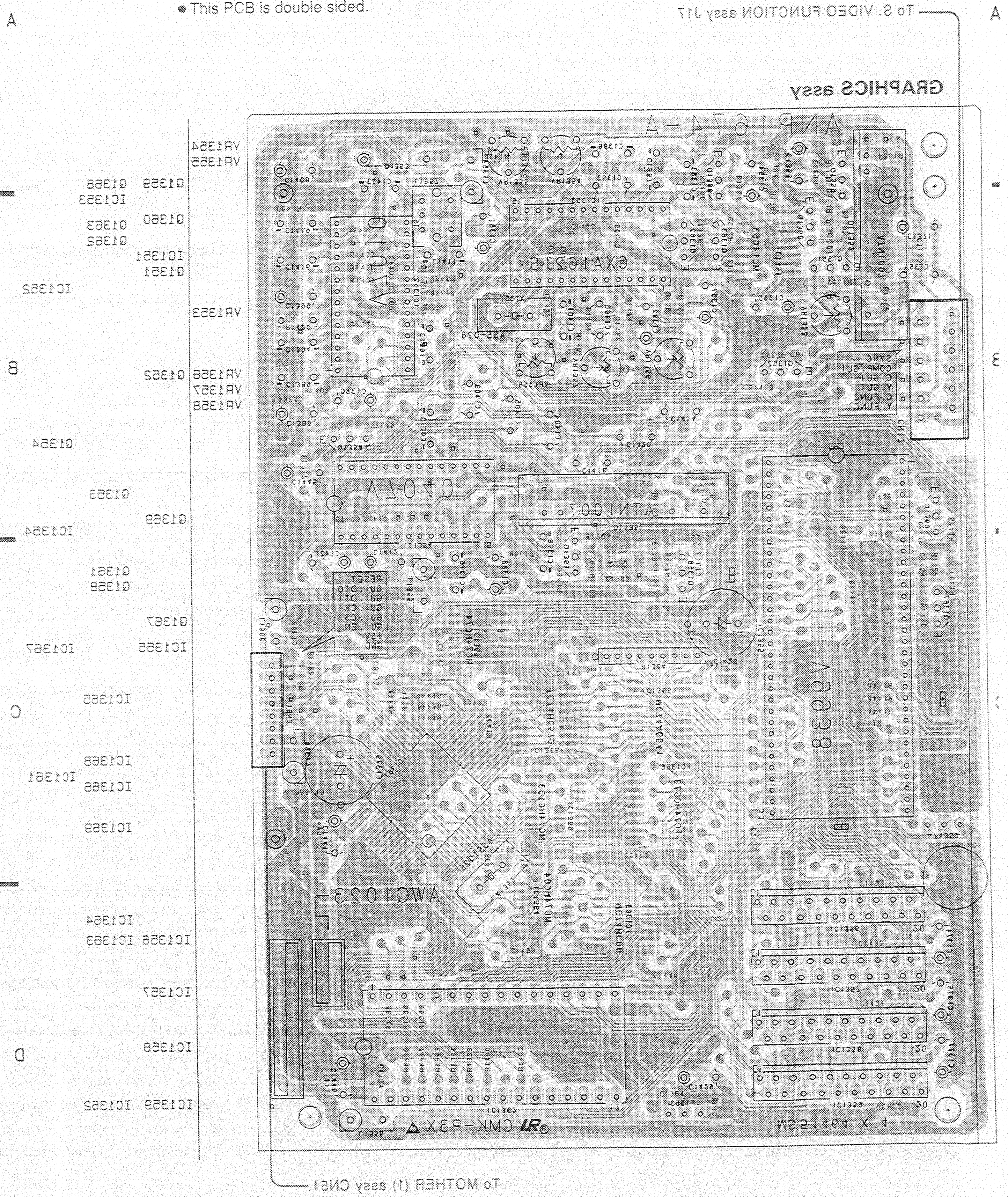
To MOTHER (2) assy CN52

MR
MON
MON
VCR2 REC
PLAY
VCR1 REC
PLAY
LD
MON S
CMK-P3X
J15
CN34
J16
J17
CN52
AWZ-5022
AWZ-5023
XRU4066
BU4066B
4053
M51904
MC14577
CXA1558L
M5238
M5228
M66
VIDEO-AMP
REC-MUTE
S.DET(MR)
S.F.C
M.F.C
SUB.FUNC-Y
MAIN.FUNC-Y
EDIT-SW
FADE-Y
FADE-C(VCA)
DET(MAIN)
VIDEO-NR
CONTROL
FREERUN ADJ
IC215 IC213
Q228 Q229
IC212
IC214
Q235
Q236
Q233 Q234
Q203 Q202 IC211
IC205
IC204
IC203
Q201
IC209
IC202
IC201
Q217 IC210
Q227 Q220
Q226 Q225
Q214 Q216 Q213
Q222–Q224
Q210 Q238
Q212 Q237 Q211
IC207
Q205 IC216
Q208
Q209
Q204 Q230
IC206 Q231
Q232 Q218 Q219
IC208

5.5 GRAPHICS ASSY

- This diagram is viewed from the gray colored foil side.
- This PCB is double sided.

GRAPHICS assy

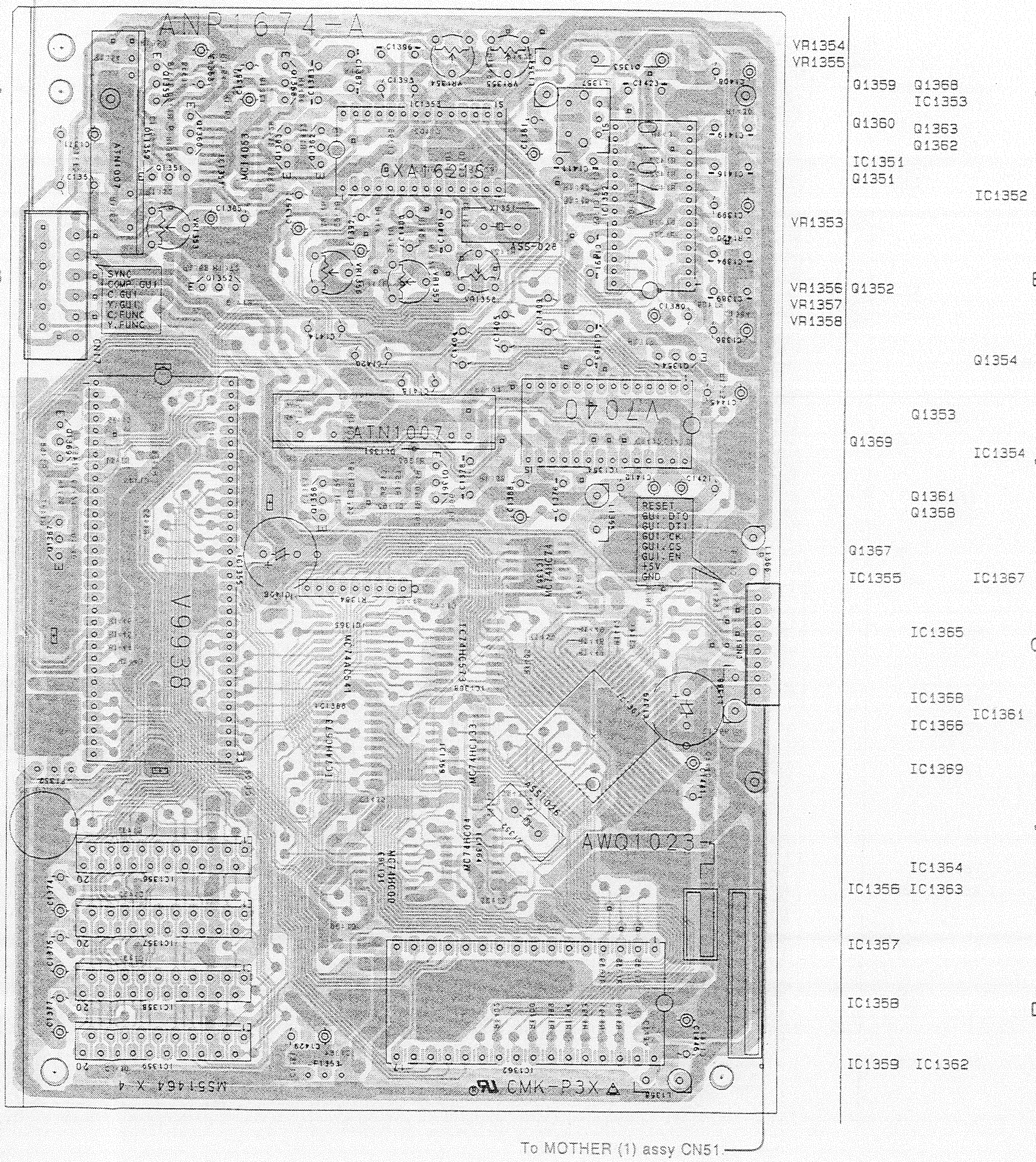

To S. VIDEO FUNCTION assy J17
A
B
C
D
VR1354
VR1355
Q1359
Q1368
IC1353
Q1360
Q1363
Q1362
IC1361
Q1351
IC1352
VR1353
VR1356
Q1352
VR1357
VR1358
Q1354
Q1353
Q1369
IC1354
Q1361
Q1358
Q1367
IC1355
IC1367
IC1365
IC1360
IC1366
IC1361
IC1369
IC1364
IC1356
IC1363
IC1357
IC1358
IC1359
IC1362
ANP1674-A
SYNC
COMP OUT
C OUT
Y OUT
C FUNC
Y FUNC
RESET
GND
CMK-P3X
To MOTHER (1) assy CN51

5.5 GRAPHICS ASSY

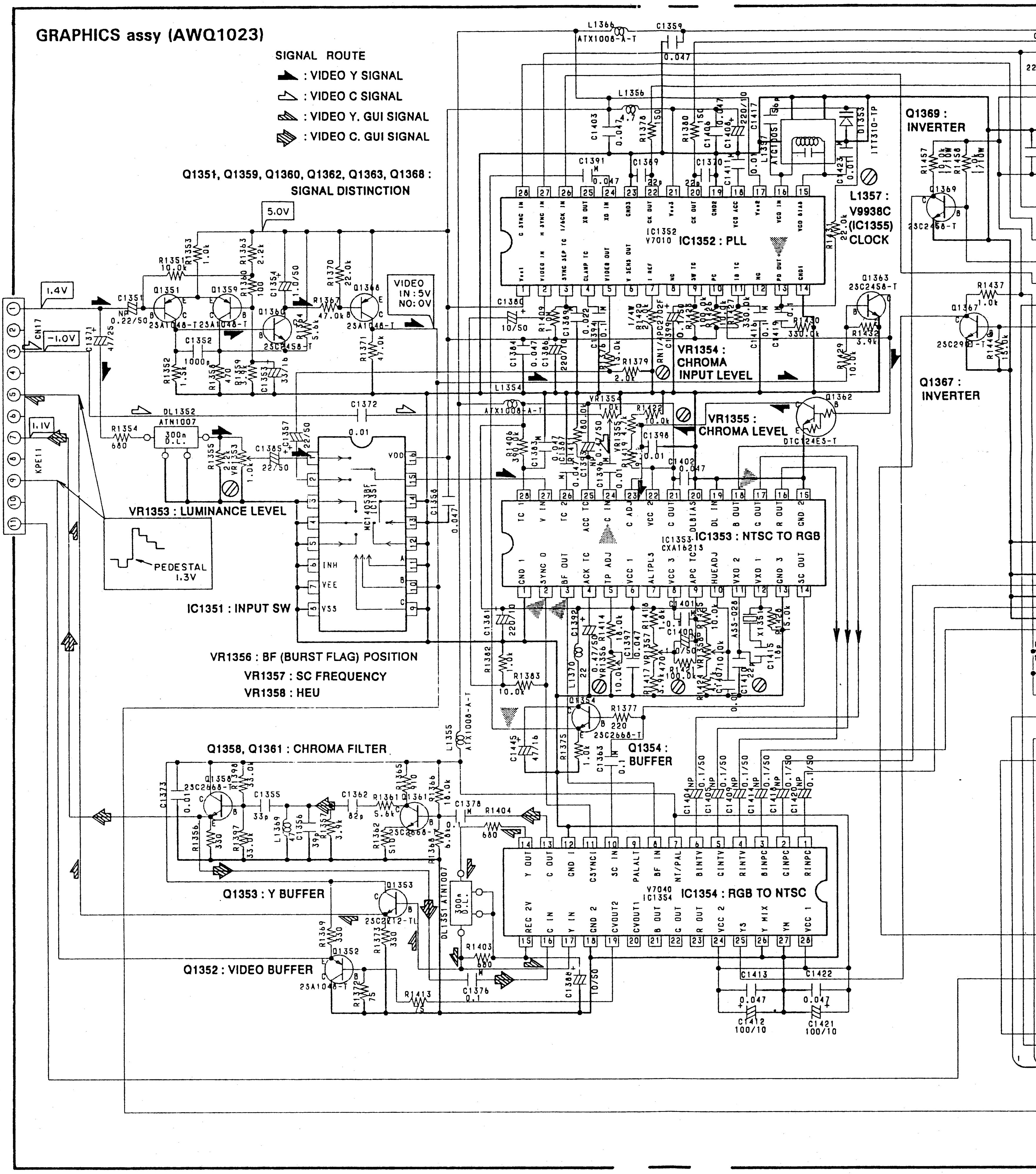
- This diagram is viewed from the pink colored foil side.
- This PCB is double sided.

To S. VIDEO FUNCTION assy J17

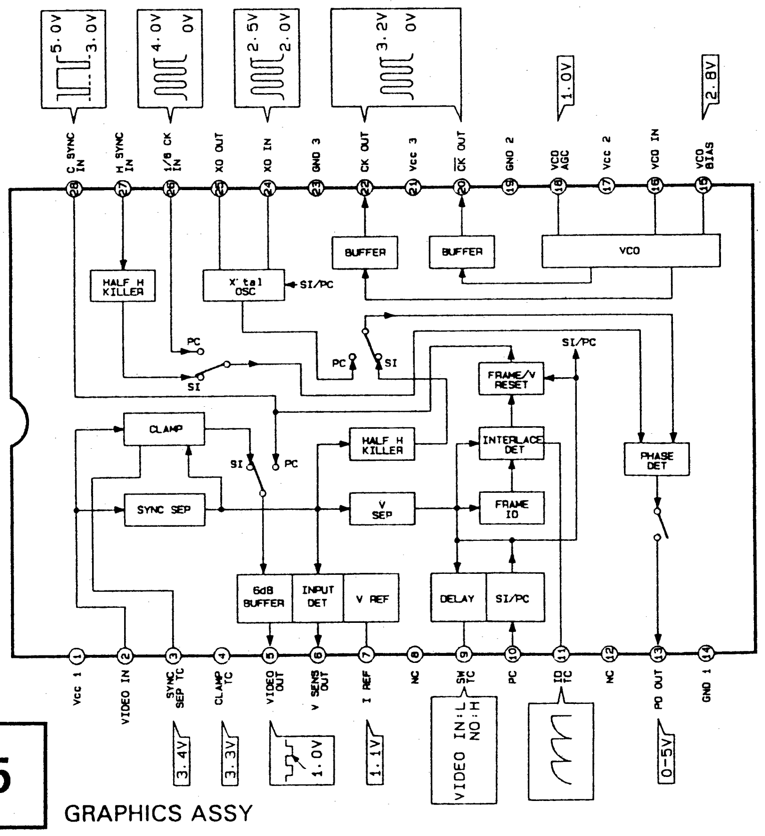
GRAPHICS assy


ANP1674-A
CXA1621S
V7010
V7040
ATN1007
V9938
AWQ1023
CMK-P3X
M5M51464 X 4
SYNC
COMP.GUI
C.GUI
Y.GUI
C.FUNC
Y.FUNC
RESET
GUI.DT0
GUI.DT1
GUI.CK
GUI.CS
GUI.EN
+5V
GND
CN17
VR1354
VR1355
Q1359
Q1368
IC1353
Q1360
Q1363
Q1362
IC1351
Q1351
IC1352
VR1353
VR1356
VR1357
VR1358
Q1352
Q1354
Q1353
Q1369
IC1354
Q1361
Q1358
Q1367
IC1355
IC1367
IC1365
IC1368
IC1366
IC1361
IC1369
IC1364
IC1356
IC1363
IC1357
IC1358
IC1359
IC1362

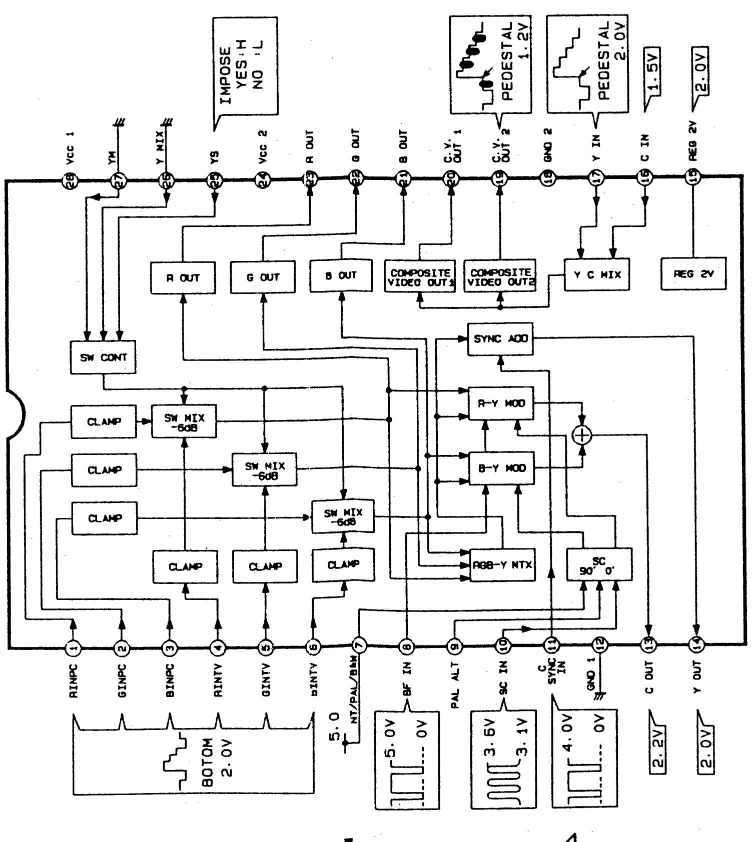
To MOTHER (1) assy CN51


GRAPHICS assy (AWQ1023)
SIGNAL ROUTE
: VIDEO Y SIGNAL
: VIDEO C SIGNAL
: VIDEO Y. GUI SIGNAL
: VIDEO C. GUI SIGNAL
Q1351, Q1359, Q1360, Q1362, Q1363, Q1368 : SIGNAL DISTINCTION
To S. VIDEO FUNCTION assy J17 (→SCH-4)
Y.FUNC
C.FUNC
Y.GUI
C.GUI
COMP.GUI
SYNC
CN17
KPE11
5.0V
1.4V
-1.0V
1.1V
VIDEO IN:5V NO:0V
PEDESTAL 1.3V
VR1353 : LUMINANCE LEVEL
IC1351 : INPUT SW
MC14053BF
VR1356 : BF (BURST FLAG) POSITION
VR1357 : SC FREQUENCY
VR1358 : HEU
IC1352 : PLL
V7010
L1357 : V9938C (IC1355) CLOCK
Q1369 : INVERTER
Q1367 : INVERTER
VR1354 : CHROMA INPUT LEVEL
VR1355 : CHROMA LEVEL
IC1353 : NTSC TO RGB
CXA1621S
Q1354 : BUFFER
Q1358, Q1361 : CHROMA FILTER
Q1353 : Y BUFFER
Q1352 : VIDEO BUFFER
IC1354 : RGB TO NTSC
V7040
ATX1008-A-T
ATN1007
DL1352
DL1351
ITT310-1P
ATC1005
DTC124ES-T
2SA1048-T
2SC2458-T
2SC2668-T
2SC2412-TL

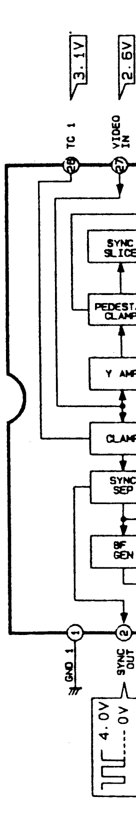
IC1352 V7010

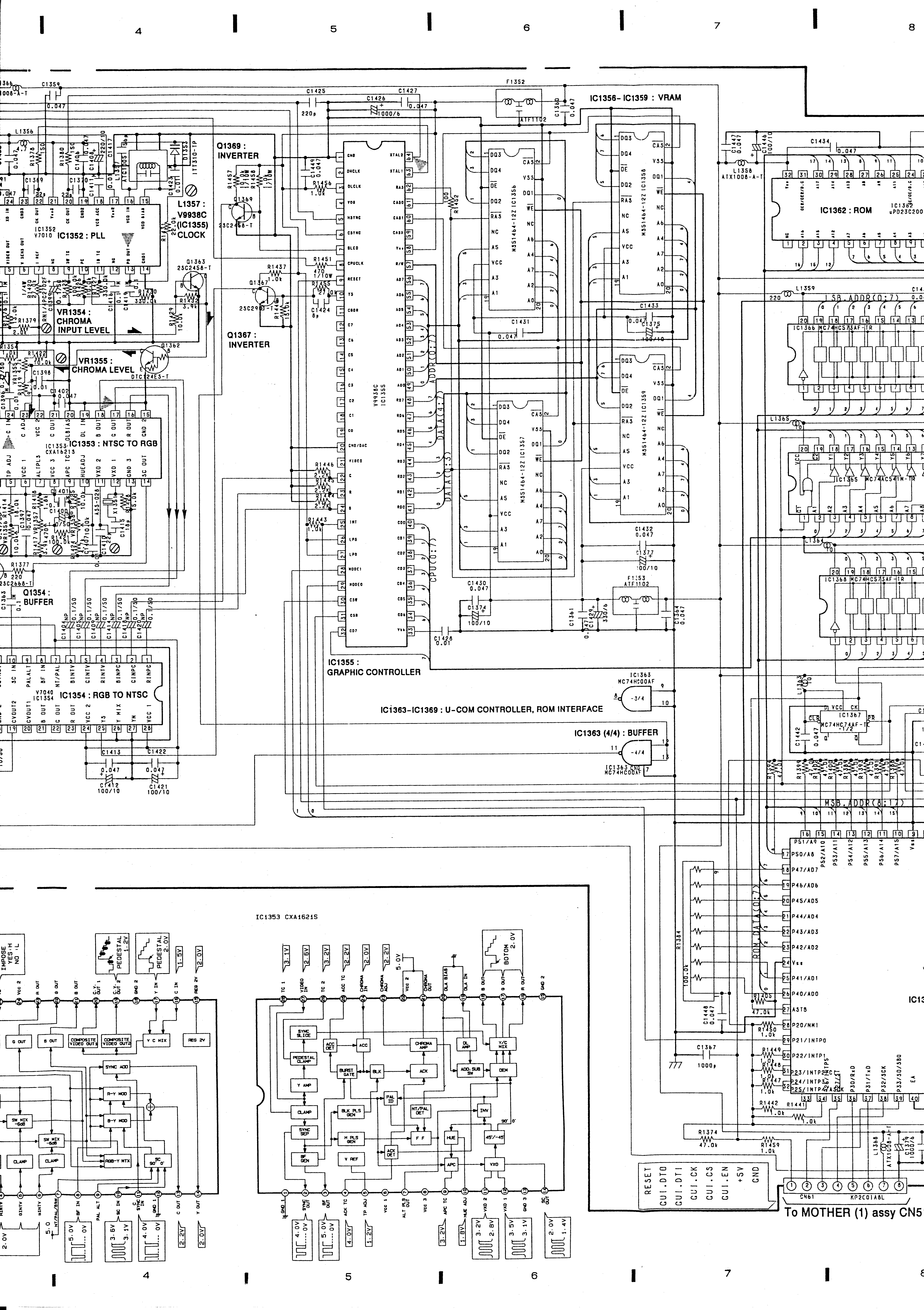

C SYNC IN
H SYNC IN
L/H CK
XO OUT
XO IN
GND 3
CK OUT
Vcc 3
CK OUT
GND 2
VCO AGC
Vcc 2
VCO IN
VCO BIAS
HALF H KILLER
X'tal OSC
SI/PC
BUFFER
BUFFER
VCO
PC
SI
CLAMP
SYNC SEP
HALF H KILLER
V SEP
FRAME/V RESET
INTERLACE DET
FRAME IO
PHASE DET
6dB BUFFER
INPUT DET
V REF
DELAY
SI/PC
Vcc 1
VIDEO IN 2
SYNC SEP TC
CLAMP TC
VIDEO OUT
V SENS OUT
I REF
NC
SW IN
PC
IO TC
NC
PD OUT
GND 1
5.0V
3.0V
4.0V
0V
2.5V
2.0V
3.2V
1.0V
2.8V
3.4V
3.3V
1.0V
1.1V
VIDEO IN:L NO:H
0-5V

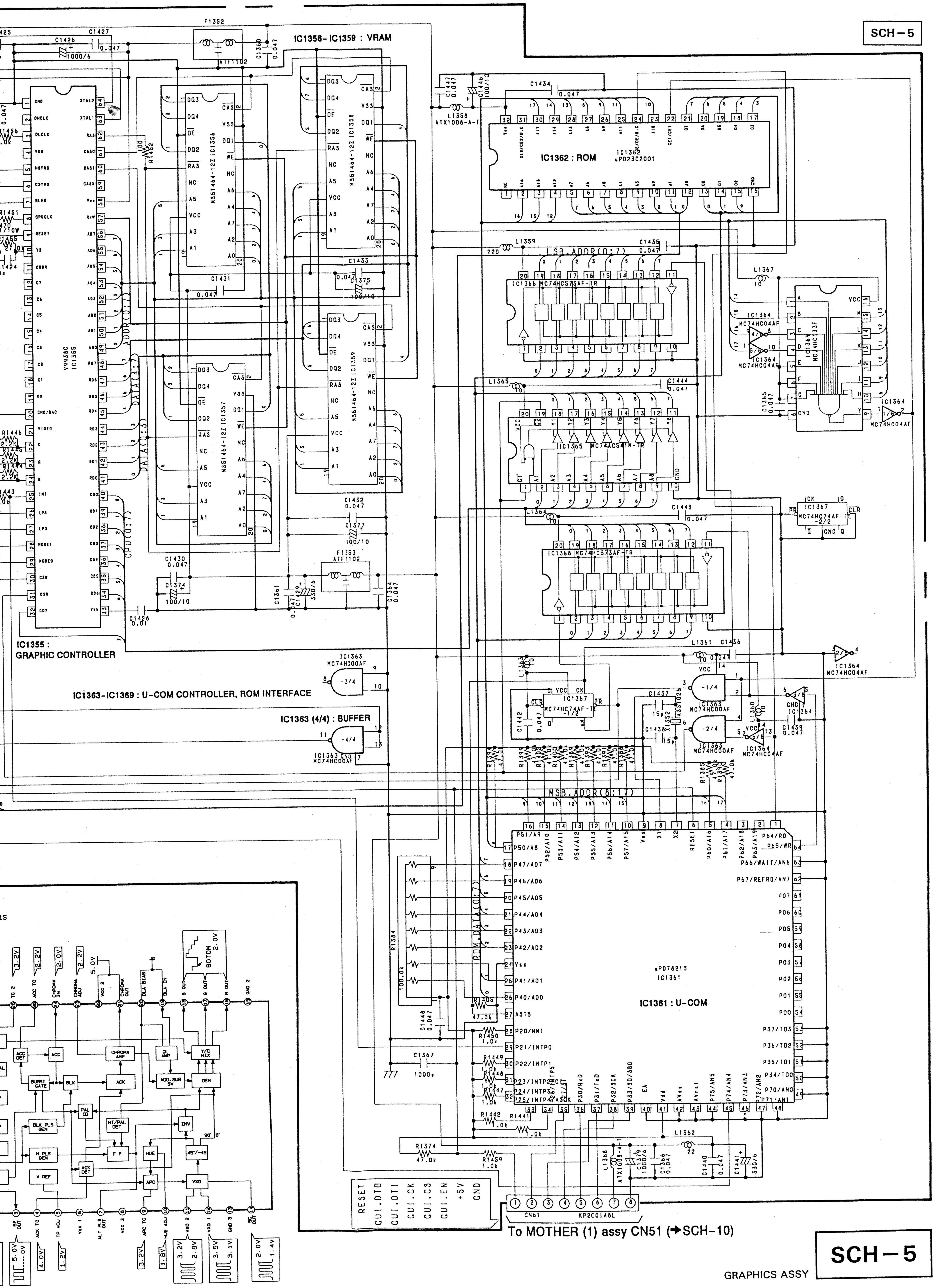
IC1354 V7040


IMPOSE YES:H NO :L
PEDESTAL 1.2V
PEDESTAL 2.0V
1.5V
2.0V
Vcc 1
YN
Y MIX
YS
Vcc 2
R OUT
G OUT
B OUT
C.Y. OUT 1
C.Y. OUT 2
GND 2
Y IN
C IN
REG 2V
R OUT
G OUT
B OUT
COMPOSITE VIDEO OUT1
COMPOSITE VIDEO OUT2
Y C MIX
REG 2V
SW CONT
SYNC ADD
CLAMP
SW MIX -6dB
R-Y MOD
B-Y MOD
RGB-Y MTX
SC 90° 0°
RINPC
GINPC
BINPC
RINTV
GINTV
BINTV
NT/PAL/BBM
BF IN
PAL ALT
SC IN
C SYNC IN
GND 1
C OUT
Y OUT
BOTOM 2.0V
5.0
5.0V
0V
3.6V
3.1V
4.0V
2.2V
2.0V

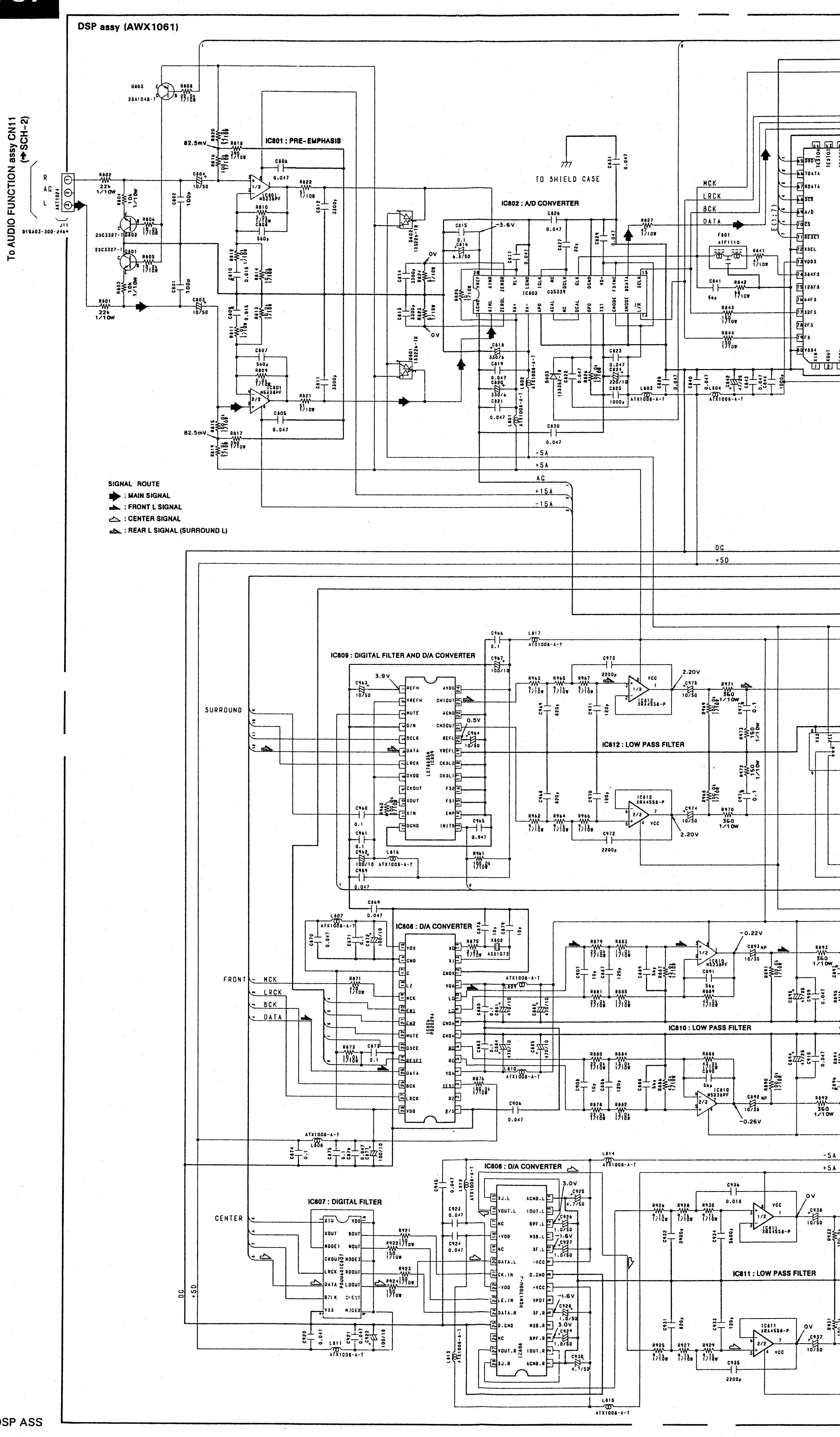
IC1353 CXA162


3.1V
2.6V
TC 1
VIDEO IN
SYNC SLICE
PEDESTAL CLAMP
Y AMP
CLAMP
SYNC SEP
BF GEN
GND 1
SYNC
4.0V
0V


IC1356- IC1359 : VRAM
Q1369 : INVERTER
Q1367 : INVERTER
L1357 : V9938C (IC1355) CLOCK
IC1352 : PLL
VR1354 : CHROMA INPUT LEVEL
VR1355 : CHROMA LEVEL
IC1353 : NTSC TO RGB
CXA1621S
Q1354 : BUFFER
IC1354 : RGB TO NTSC
V7040
IC1355 : GRAPHIC CONTROLLER
V9938C
IC1362 : ROM
IC1366 MC74HC573AF-TR
IC1365 MC74AC541M-TR
IC1368 MC74HC573AF-TR
IC1367 MC74HC74AF-TR -1/2
IC1363 MC74HC00AF -3/4
IC1363-IC1369 : U-COM CONTROLLER, ROM INTERFACE
IC1363 (4/4) : BUFFER
M5M51464-12Z IC1356
M5M51464-12Z IC1357
M5M51464-12Z IC1358
M5M51464-12Z IC1359
ADDR(0:7)
DATA(4:7)
DATA(0:3)
CPU(0:7)
LSB.ADDR(0:7)
MSB.ADDR(8:15)
ROM.DATA(0:7)
F1352
F1353 ATF1102
L1358 ATX1008-A-T
IC1353 CXA1621S
SYNC SLICE
PEDESTAL CLAMP
Y AMP
CLAMP
SYNC SEP
BF GEN
ACC DET
ACC
BURST GATE
BLK
BLK PLS GEN
H PLS GEN
V REF
CHROMA AMP
ACK
PAL ID
NT/PAL DET
ACK DET
F F
HUE
APC
DL AMP
ADD. SUB SW
Y/C MIX
DEM
INV
45°/-45°
VXO
G OUT
B OUT
COMPOSITE VIDEO OUT1
COMPOSITE VIDEO OUT2
Y C MIX
REG 2V
SYNC ADD
R-Y MOD
B-Y MOD
SW MIX -6dB
CLAMP
RGB-Y MTX
SC 90° 0°
PEDESTAL 1.2V
PEDESTAL 2.0V
BOTOM 2.0V
RESET
CUI.DTO
CUI.DTI
CUI.CK
CUI.CS
CUI.EN
+5V
GND
CN61 KP2C01A8L
To MOTHER (1) assy CN5


SCH-5
IC1356-IC1359 : VRAM
IC1355 : GRAPHIC CONTROLLER
IC1362 : ROM
IC1362 uPD23C2001
IC1366 MC74HC573AF-TR
IC1365 MC74AC541M-TR
IC1368 MC74HC573AF-TR
IC1367 MC74HC74AF-TR
IC1364 MC74HC04AF
IC1369 MC74HC133F
IC1363 MC74HC00AF
IC1363-IC1369 : U-COM CONTROLLER, ROM INTERFACE
IC1363 (4/4) : BUFFER
IC1361 : U-COM
uPD78213
LSB.ADDR(0:7)
MSB.ADDR(8:17)
ROM.DATA(0:7)
ADDR(0:7)
DATA(4:7)
DATA(0:3)
CPU(0:7)
M5M51464-12Z
V9938C IC1355
RESET
CUI.DTO
CUI.DTI
CUI.CK
CUI.CS
CUI.EN
+5V
GND
KP2C01A8L
CN61
To MOTHER (1) assy CN51 (➔SCH-10)
SCH-5

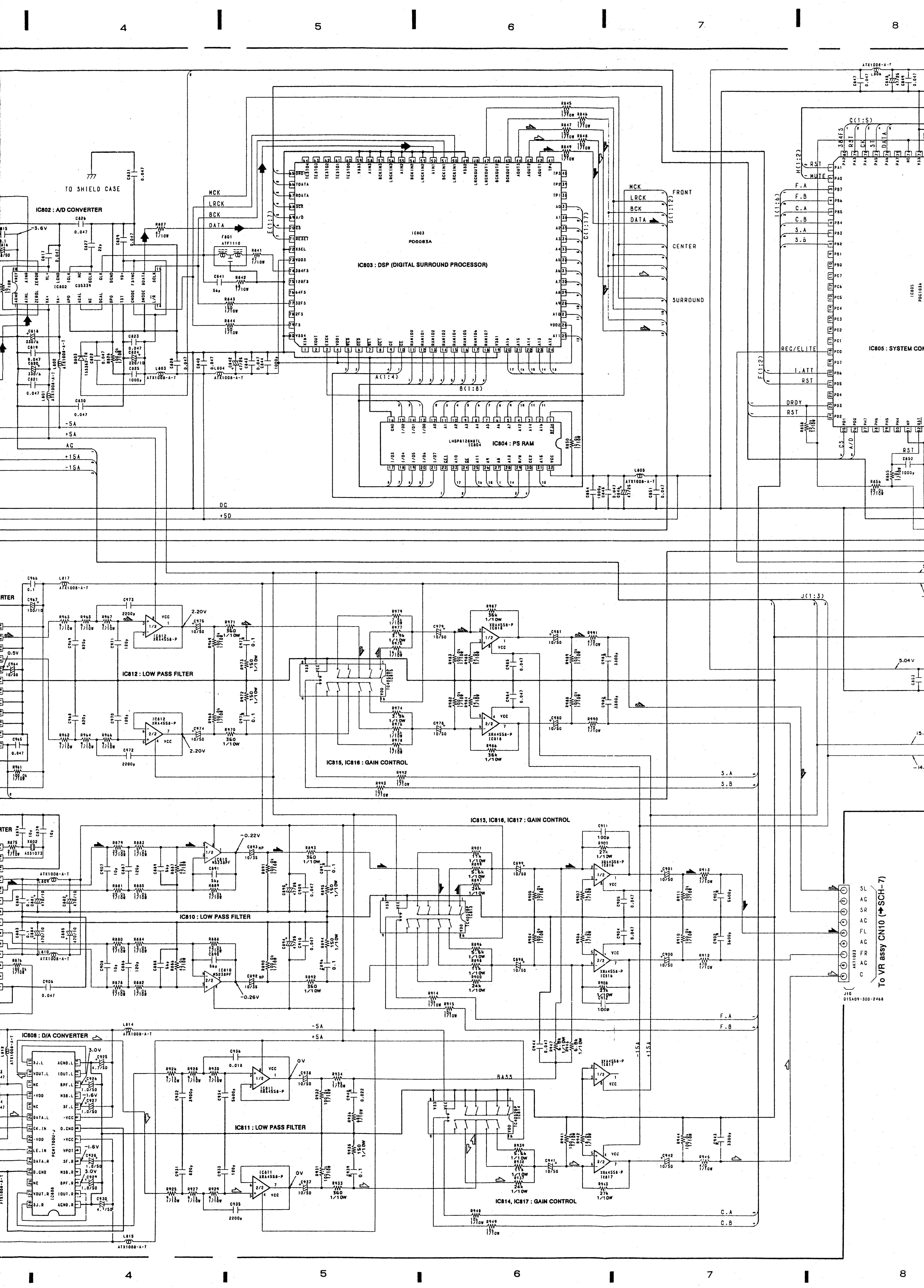
5.6 DSP ASSY

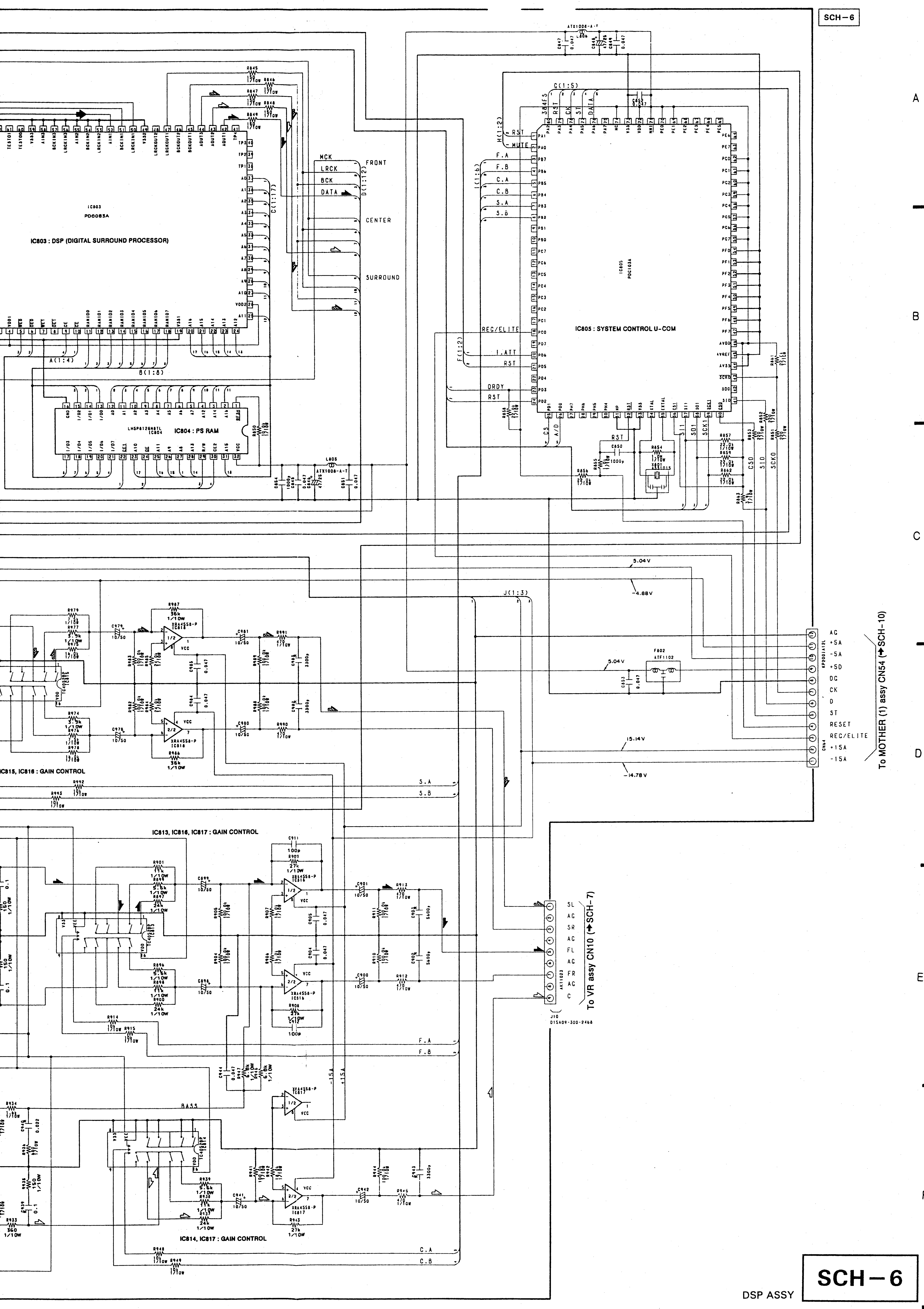


DSP assy (AWX1061)
To AUDIO FUNCTION assy CN11 (➔SCH-2)
R
AG
L
J11
D15A03-300-2464
AKT1024
Q803
2SA1048-T
Q802
Q801
2SC3327-T
R801 22k 1/10W
R802 22k 1/10W
82.5mV
IC801 : PRE-EMPHASIS
NJM4558DPF
C812 3300p
C811 3300p
TO SHIELD CASE
C831 0.047
IC802 : A/D CONVERTER
CS5339
-3.6V
0V
D802 1SS226-TR
D801 1SS226-TR
MCK
LRCK
BCK
DATA
F801 ATF1110
E(1:7)
-5A
+5A
AC
+15A
-15A
DG
+5D
SIGNAL ROUTE
➡ : MAIN SIGNAL
: FRONT L SIGNAL
△ : CENTER SIGNAL
: REAR L SIGNAL (SURROUND L)
IC809 : DIGITAL FILTER AND D/A CONVERTER
LC7883KM
3.9V
0.5V
SURROUND
IC812 : LOW PASS FILTER
XRA4558-P
2.20V
IC806 : D/A CONVERTER
PD0029A
X602 ASS1073
FRONT
IC810 : LOW PASS FILTER
NJM4558DPF
-0.22V
-0.26V
IC808 : D/A CONVERTER
PCM1700U-J
3.0V
-1.6V
IC807 : DIGITAL FILTER
PD0040A
CENTER
IC811 : LOW PASS FILTER
XRA4558-P
0V
ATX1008-A-T

SCH－6

DSP ASS


4
5
6
7
8
TO SHIELD CASE
IC802 : A/D CONVERTER
IC802 CS5339
IC803 PD0083A
IC803 : DSP (DIGITAL SURROUND PROCESSOR)
MCK
LRCK
BCK
DATA
F801 ATF1110
FRONT
CENTER
SURROUND
A(1:4)
B(1:8)
C(1:17)
D(1:12)
F(1:7)
LH5P8124N8TL IC804
IC804 : PS RAM
L805 ATX1008-A-T
-5A
+5A
AG
+15A
-15A
DG
+5D
C(1:5)
H(1:2)
I(1:6)
F(1:2)
RST
MUTE
F.A
F.B
C.A
C.B
S.A
S.B
REC/ELITE
I.ATT
DRDY
IC805 PDC103A
IC805 : SYSTEM CO
J(1:3)
IC812 : LOW PASS FILTER
IC812 XRA4558-P
2.20V
0.5V
IC815, IC816 : GAIN CONTROL
IC815 IC4052BP
IC818 XRA4558-P
5.04V
IC813, IC816, IC817 : GAIN CONTROL
IC810 : LOW PASS FILTER
IC810 NJM5238PF
-0.22V
-0.26V
X602 A553073
IC813 IC4052BP
IC816 XRA4558-P
SL
AG
SR
AG
FL
AG
FR
AG
C
J10 D15A09-300-2468
To VR assy CN10 (→SCH-7)
IC808 : D/A CONVERTER
PCM1700U-J
IC808
3.0V
-1.6V
-1.6V
3.0V
0V
0V
BASS
IC811 : LOW PASS FILTER
IC811 XRA4558-P
IC814 IC4052BP
IC817 XRA4558-P
IC814, IC817 : GAIN CONTROL
L814 ATX1008-A-T
L815 ATX1008-A-T
4
5
6
7
8

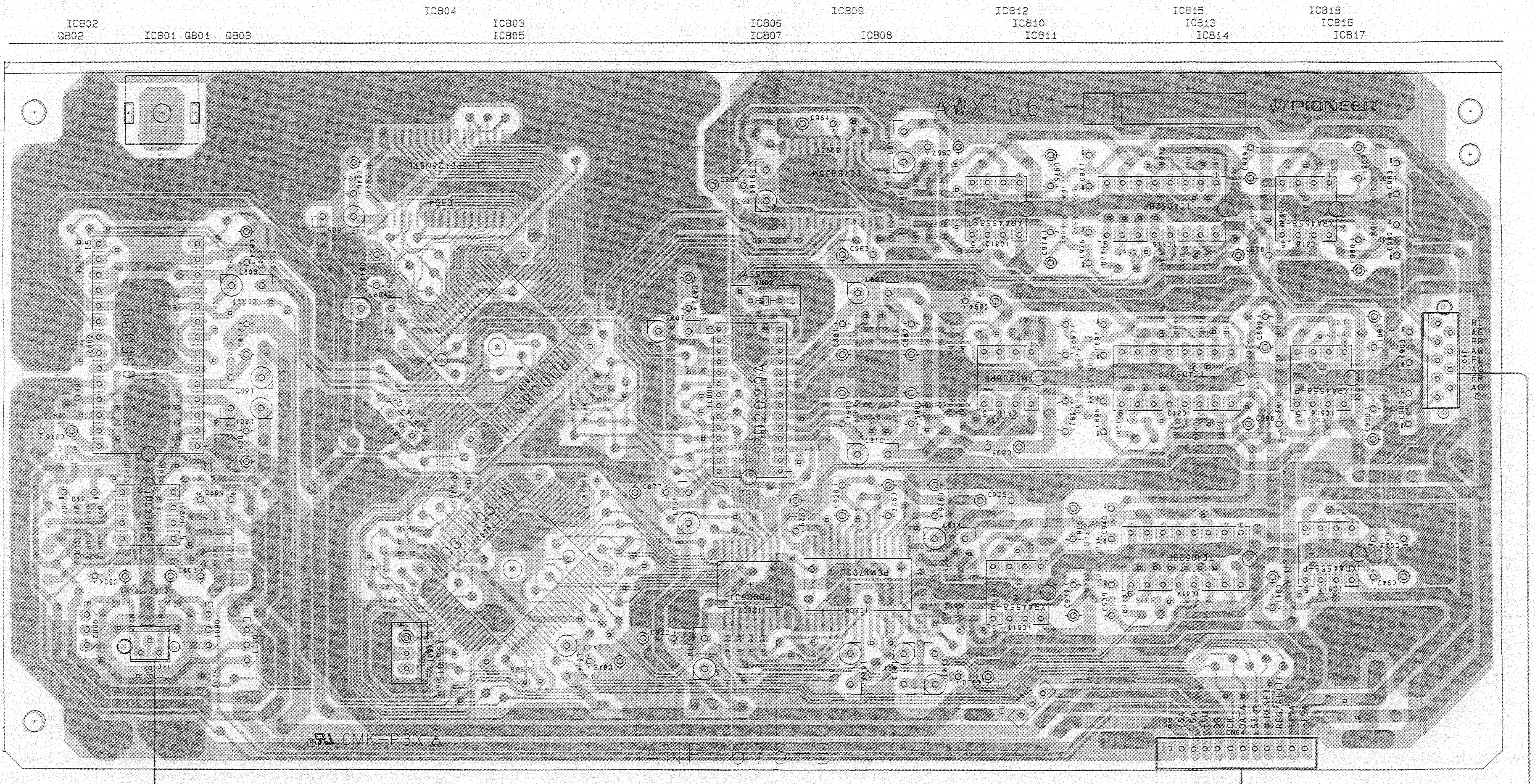

IC803 PD0083A
IC803 : DSP (DIGITAL SURROUND PROCESSOR)
LHSP8128NSTL IC804
IC804 : PS RAM
IC805 PDC103A
IC805 : SYSTEM CONTROL U-COM
MCK
LRCK
BCK
DATA
FRONT
CENTER
SURROUND
D(1:12)
C(1:17)
A(1:4)
B(1:8)
C(1:5)
H(1:2)
I(1:6)
F(1:2)
J(1:3)
RST
MUTE
F.A
F.B
C.A
C.B
S.A
S.B
REC/ELITE
I.ATT
DRDY
CS
A/D
RST
SI1
SO1
SCK1
CSO
SIO
SCKO
L805 ATX1008-A-T
ATX1008-A-T
X801
F802 ATF1102
5.04V
-4.88V
5.04V
15.14V
-14.78V
AG
+5A
-5A
+5D
DG
CK
D
ST
RESET
REC/ELITE
+15A
-15A
KP200JA12L
CN54
To MOTHER (1) assy CN54 (➔SCH-10)
SL
AG
SR
AG
FL
AG
FR
AG
C
AK11023
J10
D15A09-300-2468
To VR assy CN10 (➔SCH-7)
XRA4558-P IC818
IC815, IC816 : GAIN CONTROL
IC813, IC816, IC817 : GAIN CONTROL
XRA4558-P IC816
XRA4558-P IC817
TC4052BP IC813
TC4052BP IC814
IC814, IC817 : GAIN CONTROL
BASS
-15A
+15A
VCC
VDD
VSS
VEE

DSP ASSY

SCH−6

- This diagram is viewed from the pink colored foil side.
- This PCB is double sided.

DSP assy

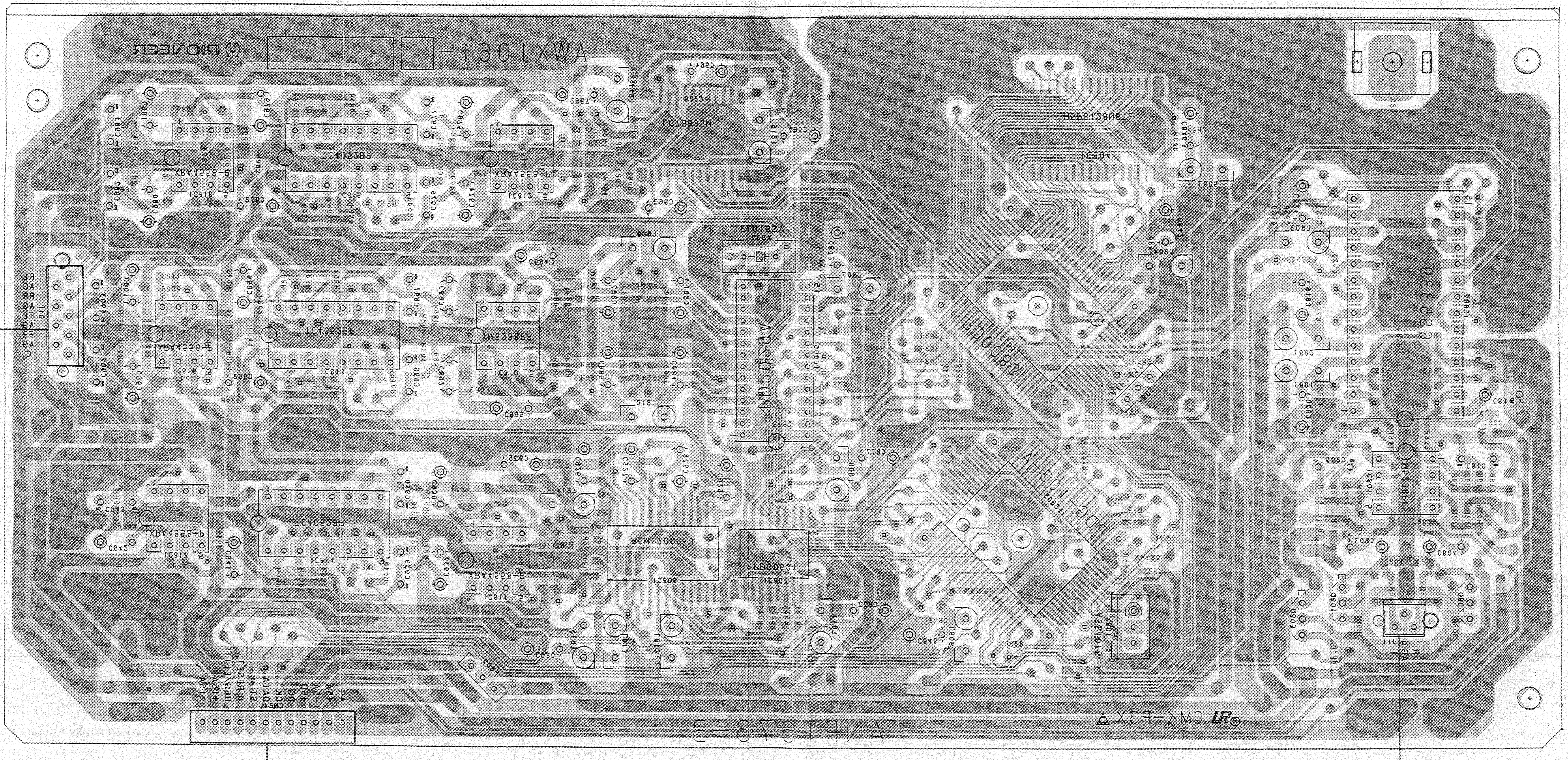

IC802
Q802
IC801 Q801 Q803
IC804
IC803
IC805
IC806
IC807
IC809
IC808
IC812
IC810
IC811
IC815
IC813
IC814
IC818
IC816
IC817
AWX1061-
PIONEER
ANP1678-B
CMK-P3X
PD0083
PD2020A
PDG-1001A
PCM1700U-J
PD0060
M5238FP
TC4052BP
XRA4558-P
LC7883SM
RL
AG
RR
AG
FL
AG
FR
AG
C
AG
+5A
-5A
+5D
DG
CK
DATA
ST
RESET
+15A
-15A

To AUDIO FUNCTION assy CN11

To MOTHER (1) assy CN54

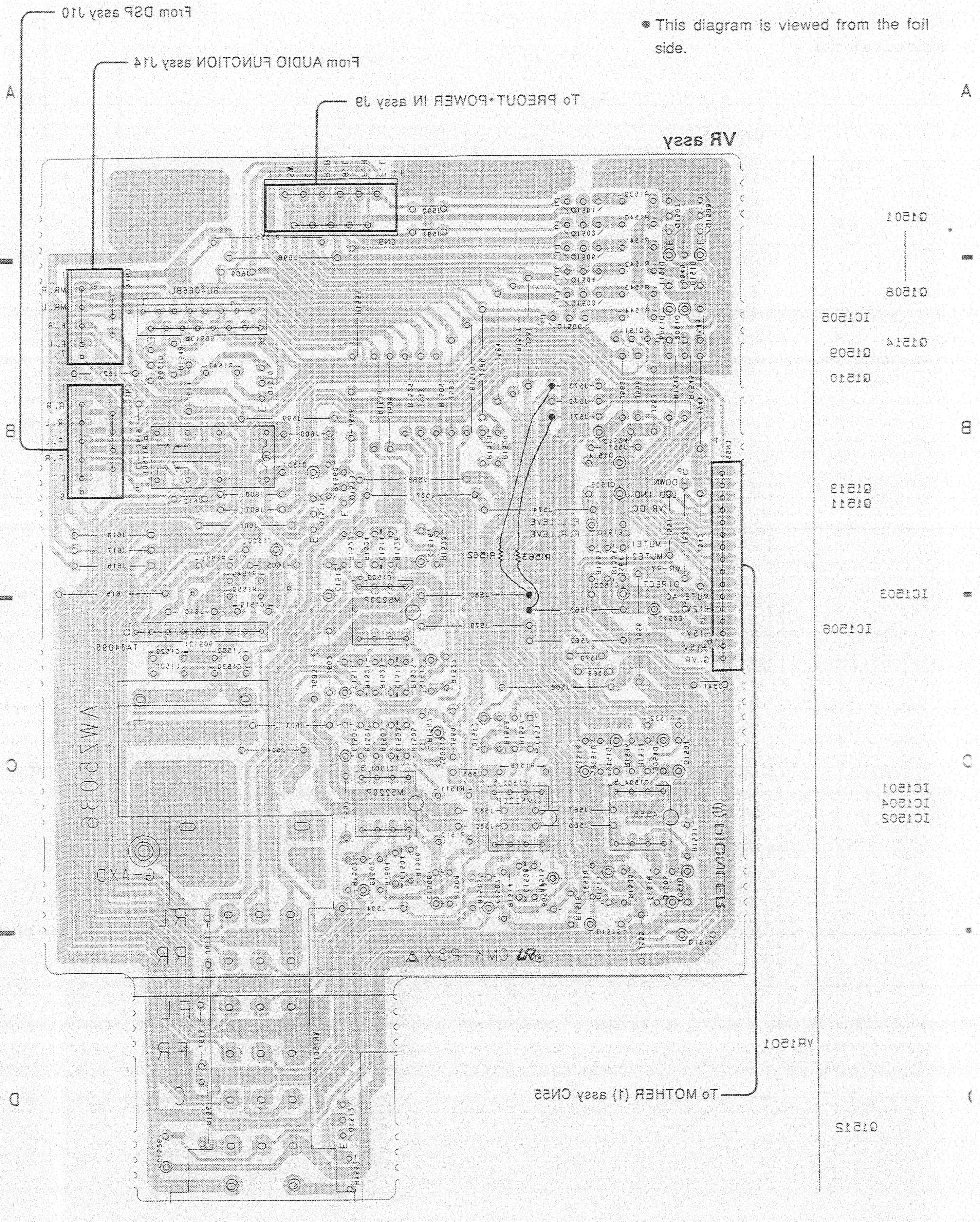
To VR assy CN10

- This diagram is viewed from the gray colored foil side.
- This PCB is double sided.



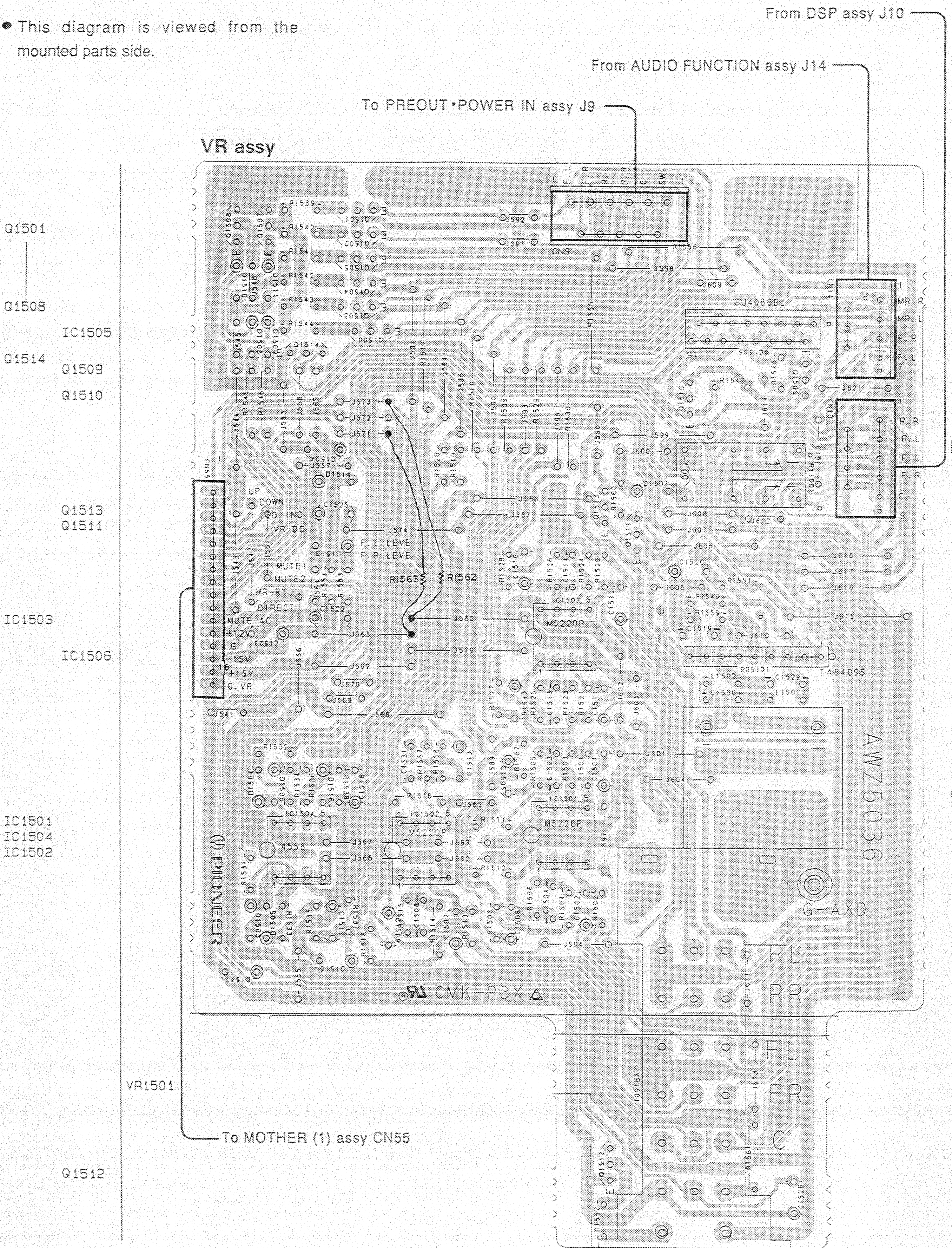
5.7 VR ASSY

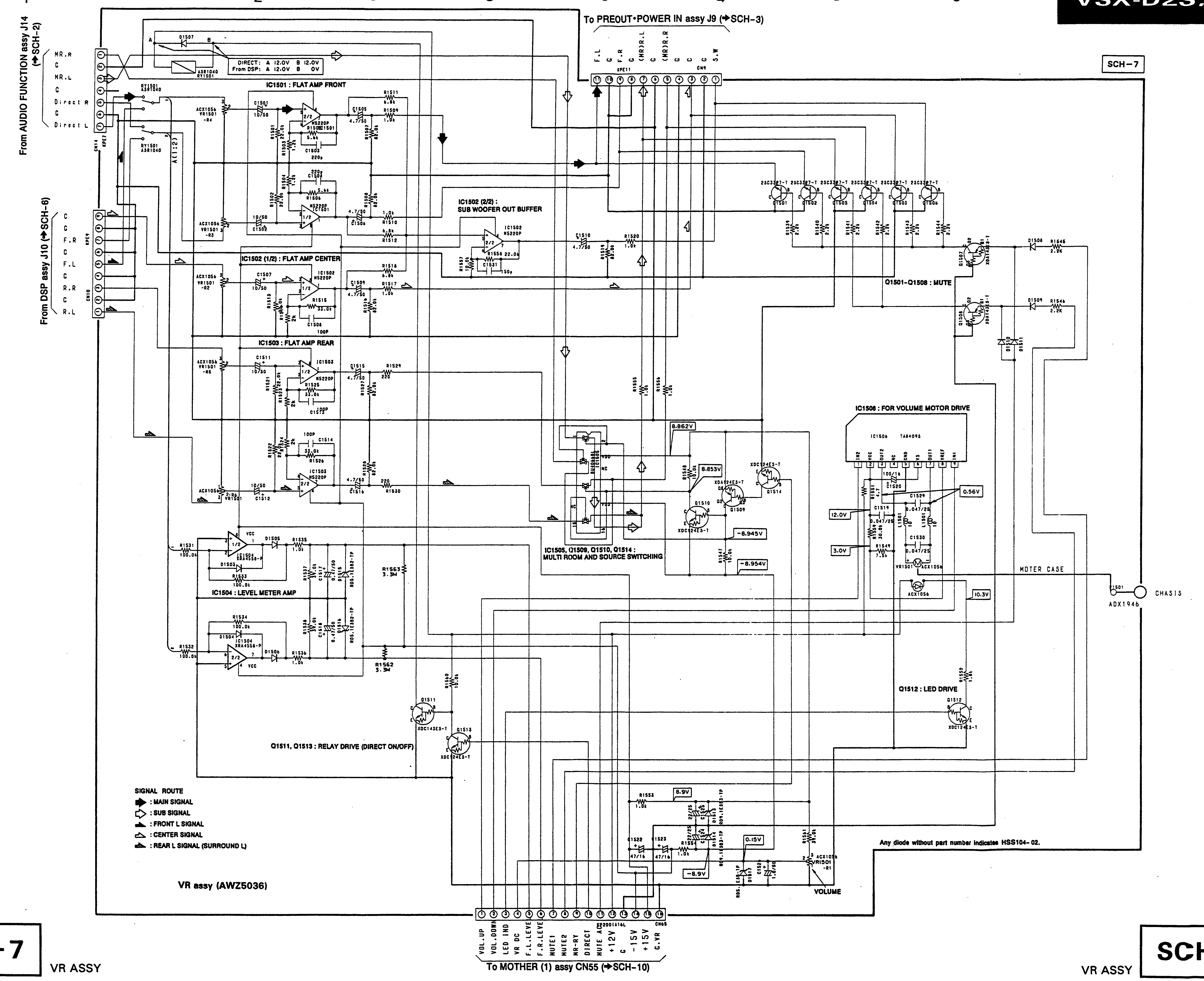
- This diagram is viewed from the foil side.


From DSP assy J10
From AUDIO FUNCTION assy J14
To PREOUT•POWER IN assy J9
VR assy
To MOTHER (1) assy CN55
A
B
C
D
Q1501
Q1508
IC1505
Q1514
Q1509
Q1510
Q1513
Q1511
IC1503
IC1506
IC1501
IC1504
IC1502
VR1501
Q1512
CN5
CN55
R1562
R1563
AWZ5036
CMK-P3X

5.7 VR ASSY

- This diagram is viewed from the mounted parts side.


From DSP assy J10
From AUDIO FUNCTION assy J14
To PREOUT・POWER IN assy J9
VR assy
To MOTHER (1) assy CN55
Q1501
Q1508
IC1505
Q1514
Q1509
Q1510
Q1513
Q1511
IC1503
IC1506
IC1501
IC1504
IC1502
VR1501
Q1512
CN9
CN55
CN10
CN11
BU4066BL
M5220P
4558
TA8409S
AW75036
G-AXD
CMK-P3X
PIONEER
UP
DOWN
LED IND
VR DC
F.L.LEVE
F.R.LEVE
MUTE1
MUTE2
MR-RY
DIRECT
MUTE AC
+12V
G
-15V
+15V
G.VR
MR.R
MR.L
F.R
F.L
R.R
R.L
R1563
R1562
RL
RR
FL
FR
C
A
B
C
D
1
2
3



SCH-7
To PREOUT•POWER IN assy J9 (➔SCH-3)
F.L
G
F.R
G
(MR)R.L
G
(MR)R.R
G
G
G
S.W
XPE11
CN9
From AUDIO FUNCTION assy J14 (➔SCH-2)
MR.R
C
MR.L
C
Direct R
C
Direct L
CN14
XPE7
From DSP assy J10 (➔SCH-6)
C
C
F.R
C
F.L
C
R.R
C
R.L
XPE9
CN10
D1507
RY1501 ASR1040
DIRECT: A 12.0V B 12.0V
From DSP: A 12.0V B 0V
IC1501 : FLAT AMP FRONT
IC1502 (1/2) : FLAT AMP CENTER
IC1502 (2/2) : SUB WOOFER OUT BUFFER
IC1503 : FLAT AMP REAR
IC1504 : LEVEL METER AMP
IC1505, Q1509, Q1510, Q1514 : MULTI ROOM AND SOURCE SWITCHING
IC1506 : FOR VOLUME MOTOR DRIVE
IC1506 TA8409S
Q1501–Q1508 : MUTE
Q1511, Q1513 : RELAY DRIVE (DIRECT ON/OFF)
Q1512 : LED DRIVE
2SC3327-T
XDA124ES-T
XDC124ES-T
XDC143ES-T
NS220P
XRA4556-P
ACX1056
VR1501
8.862V
8.853V
-8.945V
-8.954V
12.0V
3.0V
0.56V
10.3V
8.9V
0.15V
-8.9V
MOTER CASE
CHASIS
ADX1946
VOLUME
Any diode without part number indicates HSS104-02.
SIGNAL ROUTE
➡ : MAIN SIGNAL
⇨ : SUB SIGNAL
: FRONT L SIGNAL
: CENTER SIGNAL
: REAR L SIGNAL (SURROUND L)
VR assy (AWZ5036)
VOL.UP
VOL.DOWN
LED IND
VR DC
F.L.LEVEL
F.R.LEVEL
MUTE1
MUTE2
MR-RY
DIRECT
MUTE AC
+12V
G
-15V
+15V
G.VR
CN65
To MOTHER (1) assy CN55 (➔SCH-10)

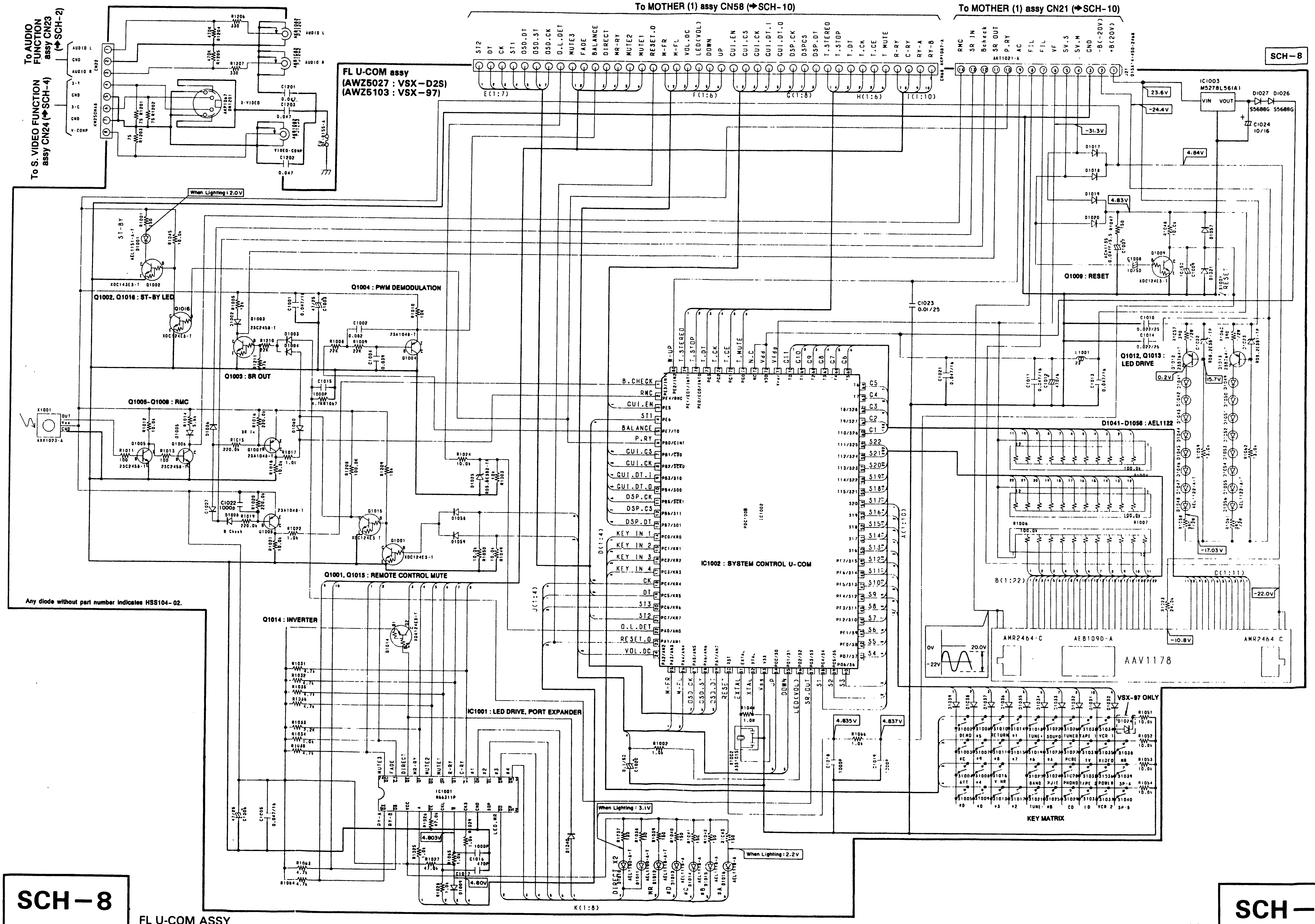
SCH-7

VR ASSY

SCH-7

VR ASSY

5.8 FL U-COM ASSY


To AUDIO FUNCTION assy CN23 (→SCH-2)
To S. VIDEO FUNCTION assy CN24 (→SCH-4)
To MOTHER (1) assy CN58 (→SCH-10)
To MOTHER (1) assy CN21 (→SCH-10)
FL U-COM assy
(AWZ5027 : VSX-D2S)
(AWZ5103 : VSX-97)
SCH-8
ST2
DT
CK
ST1
OSD.DT
OSD.ST
OSD.CK
O.L.DET
MUTE3
FADE
BALANCE
DIRECT
MR-RY
MUTE2
MUTE1
RESET.O
M-FR
M-FL
VOL.DC
LED(VOL)
DOWN
UP
CUI.EN
CUI.CS
CUI.CK
CUI.DT.I
CUI.DT.O
DSP.CK
DSPCS
DSP.DT
T.STEREO
T.STOP
T.DT
T.CK
T.CE
T.MUTE
R-RY
C-RY
RY-A
RY-B
RMC
SR IN
BCHECK
SR OUT
P.RY
AC
FIL
FIL
VF
5V.S
5V.M
GND
-B(-20V)
+B(20V)
IC1003 M5278L56(A)
VIN VOUT
D1027 D1026
S5688G S5688G
C1024 10/16
23.6V
-24.4V
-31.3V
4.84V
4.83V
D1017
D1018
D1019
D1020
Q1009 : RESET
When Lighting : 2.0V
ST-BY
Q1002, Q1016 : ST-BY LED
Q1004 : PWM DEMODULATION
Q1003 : SR OUT
Q1005-Q1008 : RMC
X1001
AXX1023-A
Q1001, Q1015 : REMOTE CONTROL MUTE
Any diode without part number indicates HSS104-02.
Q1014 : INVERTER
IC1001 : LED DRIVE, PORT EXPANDER
IC1002 : SYSTEM CONTROL U-COM
C1023 0.01/25
Q1012, Q1013 : LED DRIVE
0.2V
5.7V
D1041-D1056 : AEL1122
-17.03V
-22.0V
-10.8V
AMR2464-C
AEB1090-A
AAV1178
0V
20.0V
-22V
B.CHECK
RMC
CUI.EN
ST1
BALANCE
P.RY
CUI.CS
CUI.CK
CUI.DT.I
CUI.DT.O
DSP.CK
DSP.CS
DSP.DT
KEY IN 1
KEY IN 2
KEY IN 3
KEY IN 4
CK
DT
ST3
ST2
O.L.DET
RESET.O
VOL.DC
W-UP
T.STEREO
T.STOP
T.DT
T.CK
T.CE
T.MUTE
N.C
Vdd
Vfdp
C11
C10
C9
C8
C7
C6
C5
C4
C3
C2
C1
S22
S21
S20
S19
S18
S17
S16
S15
S14
S13
S12
S11
S10
S9
S8
S7
S6
S5
S4
S3
S2
S1
M-FR
M-FL
OSD.CK
OSD.ST
RESET
EXTAL
XTAL
VSS
UP
DOWN
LED(VOL)
SR.OUT
4.835V
4.837V
VSX-97 ONLY
KEY MATRIX
When Lighting : 3.1V
When Lighting : 2.2V
4.803V
4.80V
DIRECT X2
MUTE3
FADE
DIRECT
MR-RY
MUTE1
R-RY
C-RY
IC1001 M66311P
K(1:8)
E(1:7)
F(1:6)
G(1:8)
H(1:6)
I(1:10)
B(1:22)
C(1:11)
A
B
C
D

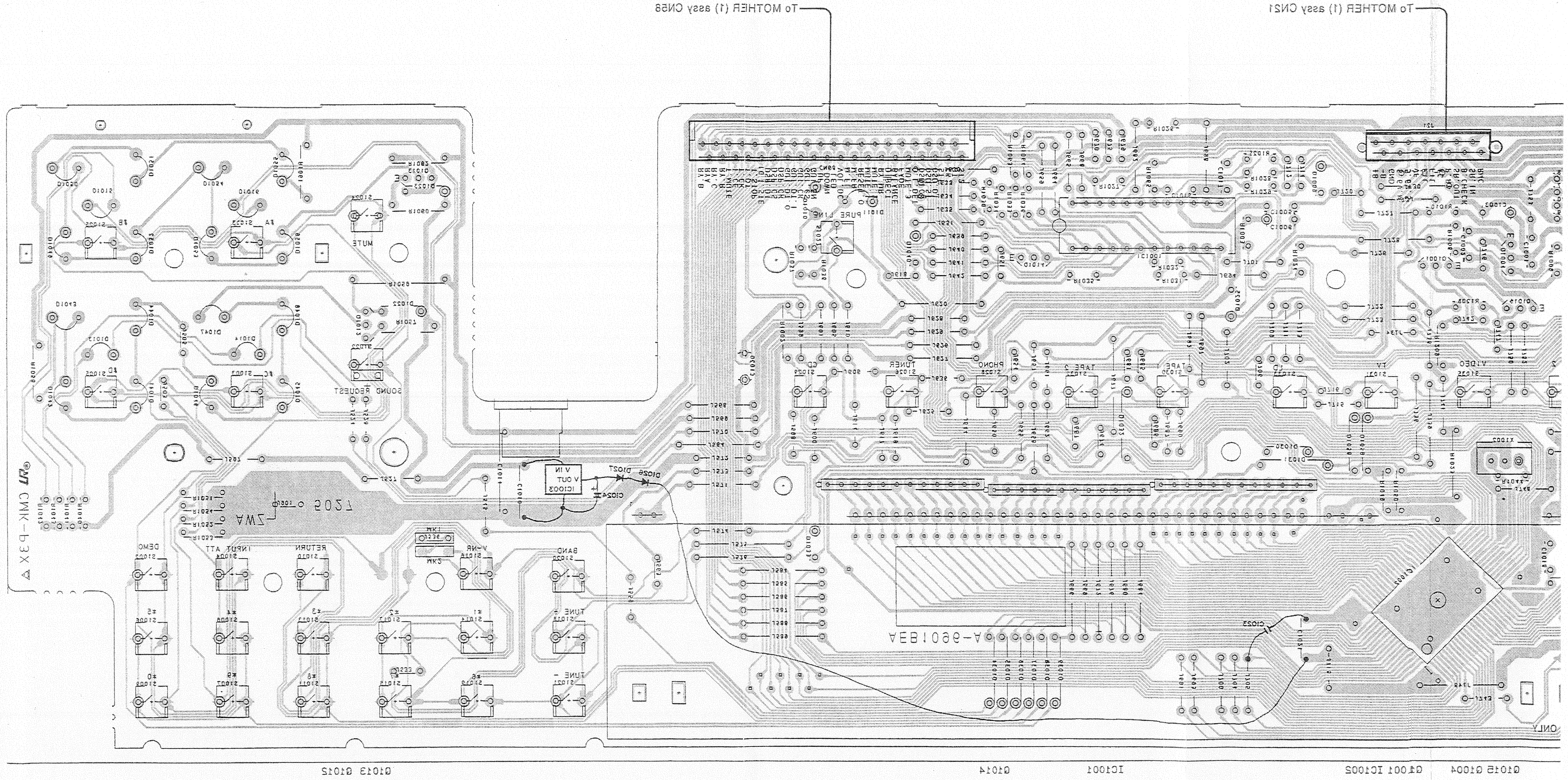
SCH−8

57

FL U-COM ASSY

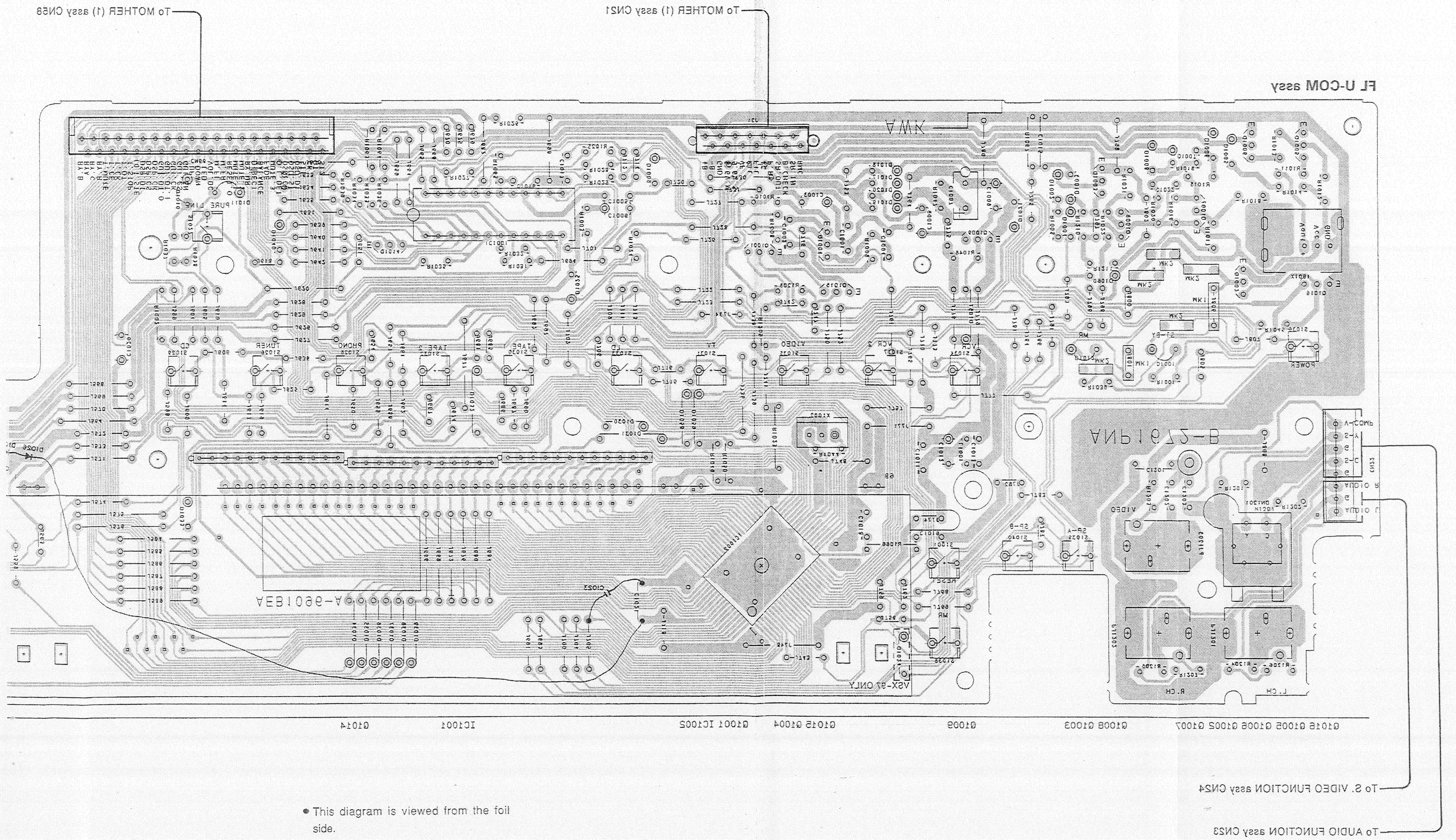
SCH−8

FL U-COM ASSY


To MOTHER (1) assy CN58
To MOTHER (1) assy CN21
CMK-P3X A
AEB1016-A
Q1013 Q1012
Q1014
IC1001
Q1001 IC1002
Q1015 Q1004

- This diagram is viewed from the foil side.

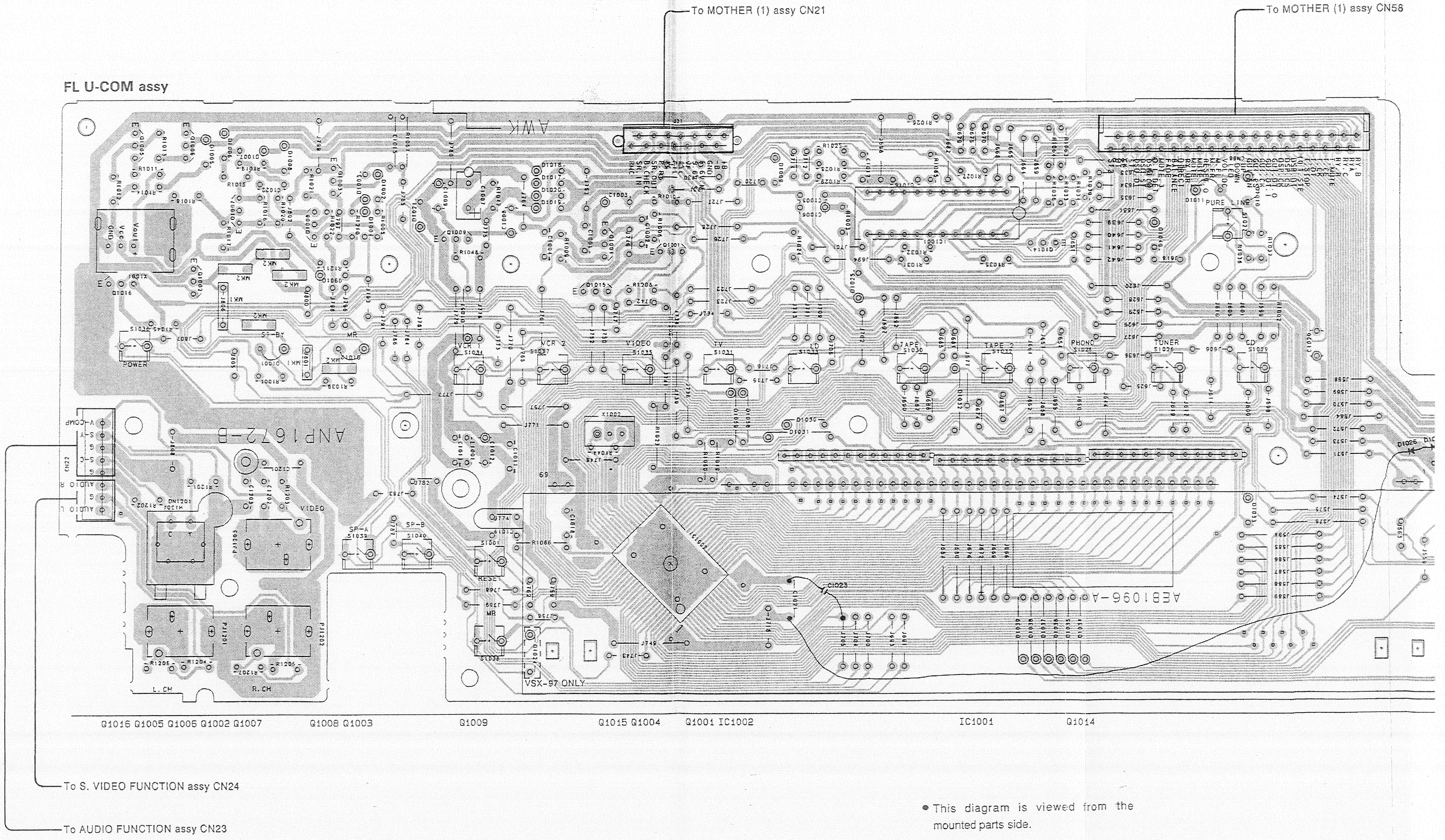
FL U-COM assy



To MOTHER (1) assy CN58
To MOTHER (1) assy CN21
PURE LINE
CD
TUNER
PHONO
TAPE 2
TAPE 1
LD
TV
VIDEO
VCR 2
VCR 1
ST-BY
MR
POWER
ANP1927-B
AEB1096-A
X1001
RESET
SP-A
SP-B
VSX-97 ONLY
V-COMP
AUDIO R
AUDIO L
VIDEO
R.CH
L.CH
Q1014
IC1001
Q1001 IC1002
Q1015 Q1004
Q1009
Q1008 Q1003
Q1016 Q1005 Q1006 Q1002 Q1007
To S. VIDEO FUNCTION assy CN24
To AUDIO FUNCTION assy CN23
A
B
C
D
1
2
3
4
5
6

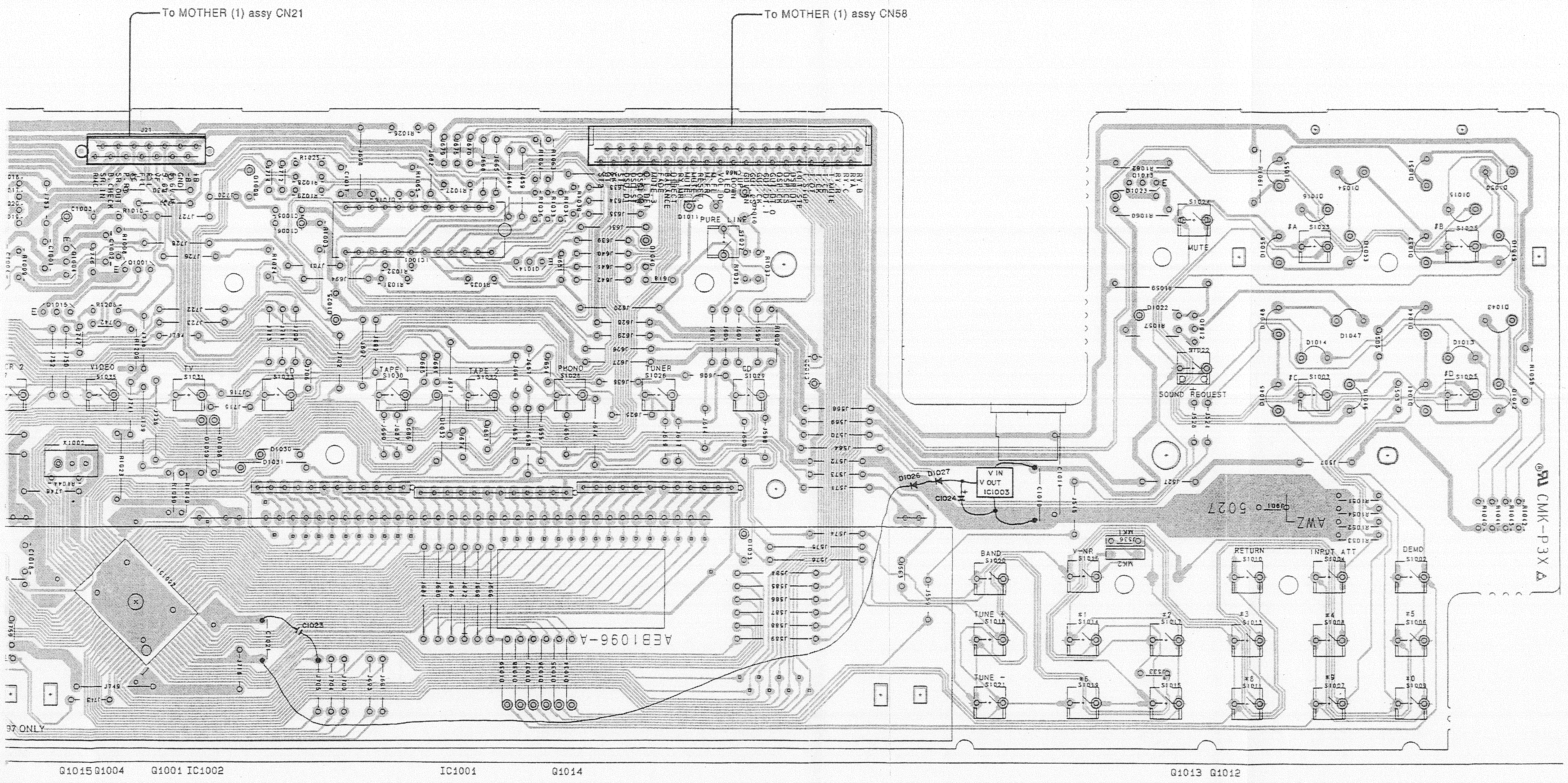
- This diagram is viewed from the foil side.

FL U-COM assy


To MOTHER (1) assy CN21
To MOTHER (1) assy CN58
ANP1672-B
AEB1096-A
POWER
ST-BY
MR
VCR 1
VCR 2
VIDEO
TV
LD
TAPE 1
TAPE 2
PHONO
TUNER
CD
PURE LINE
SP-A
SP-B
RESET
VIDEO
L.CH
R.CH
VSX-97 ONLY
CN22
CN21
CN58
IC1001
IC1002
X1002
Q1016 Q1005 Q1006 Q1002 Q1007
Q1008 Q1003
Q1009
Q1015 Q1004
Q1001 IC1002
IC1001
Q1014
To S. VIDEO FUNCTION assy CN24
To AUDIO FUNCTION assy CN23

- This diagram is viewed from the mounted parts side.

3 4 5 6 7 8


To MOTHER (1) assy CN21
To MOTHER (1) assy CN58
J21
CN58
VIDEO S1032
TV S1031
LD S1033
TAPE 1 S1030
TAPE 2 S1027
PHONO S1028
TUNER S1026
CD S1029
PURE LINE
MUTE
SOUND REQUEST
#A S1023
#B S1025
#C S1003
#D S1005
V IN
V OUT
IC1003
D1026
D1027
C1024
IC1001
IC1002
X1002
AEB1096-A
CMK-P3X
AWZ 5027
BAND S1020
V-NR S1016
RETURN S1010
INPUT ATT S1004
DEMO S1002
TUNE + S1019
TUNE − S1021
#1 S1014
#2 S1017
#3 S1011
#4 S1008
#5 S1006
#6 S1018
#7 S1015
#8 S1011
#9 S1007
#0 S1009
97 ONLY
Q1015 Q1004
Q1001 IC1002
IC1001
Q1014
Q1013 Q1012

A

E

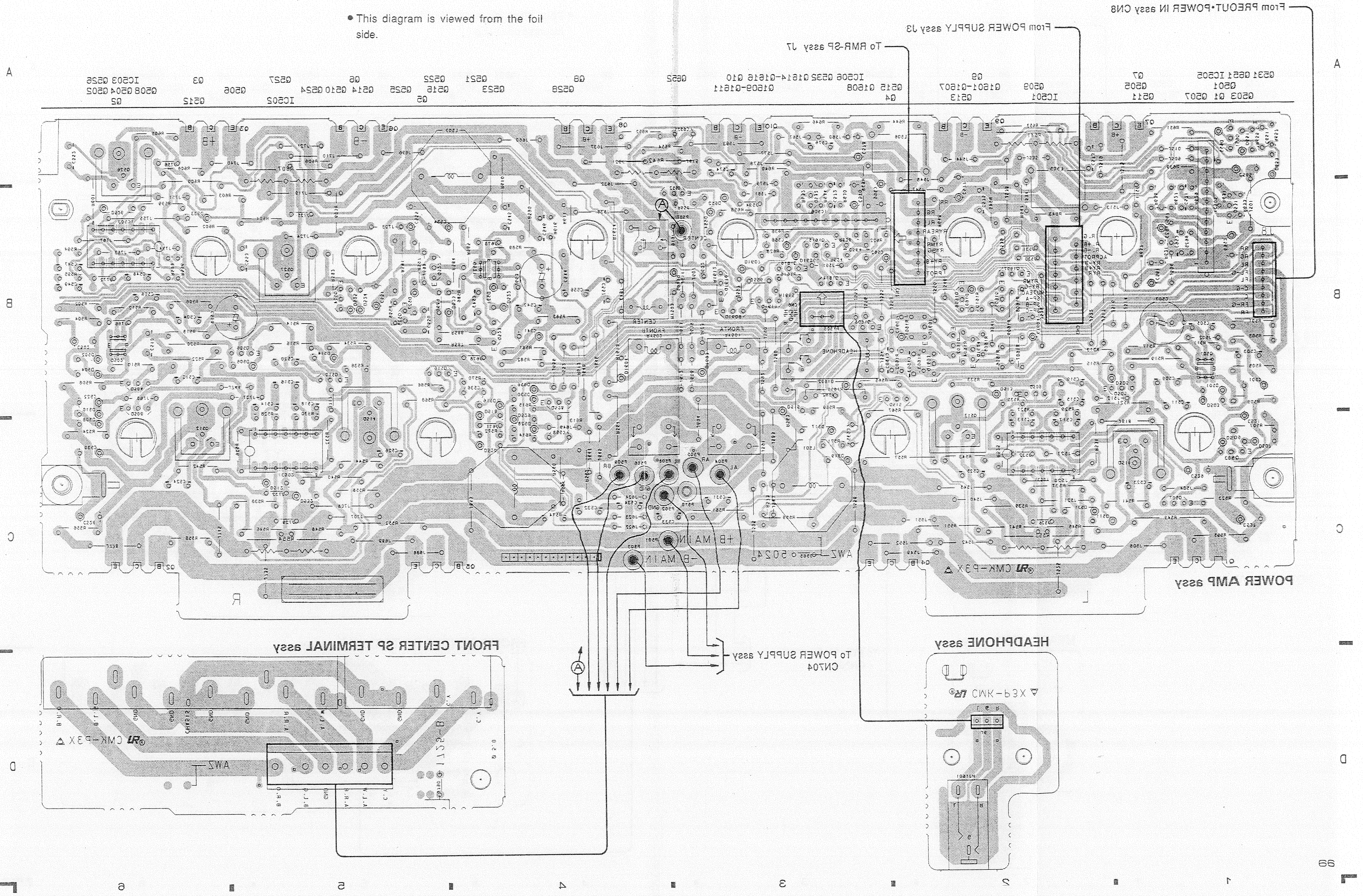
- This diagram is viewed from the mounted parts side.

S1

3 4 5 6 7 8 9

5.9 POWER AMP ASSY, HEADPHONE ASSY AND FRONT CENTER SP TERMINAL ASSY

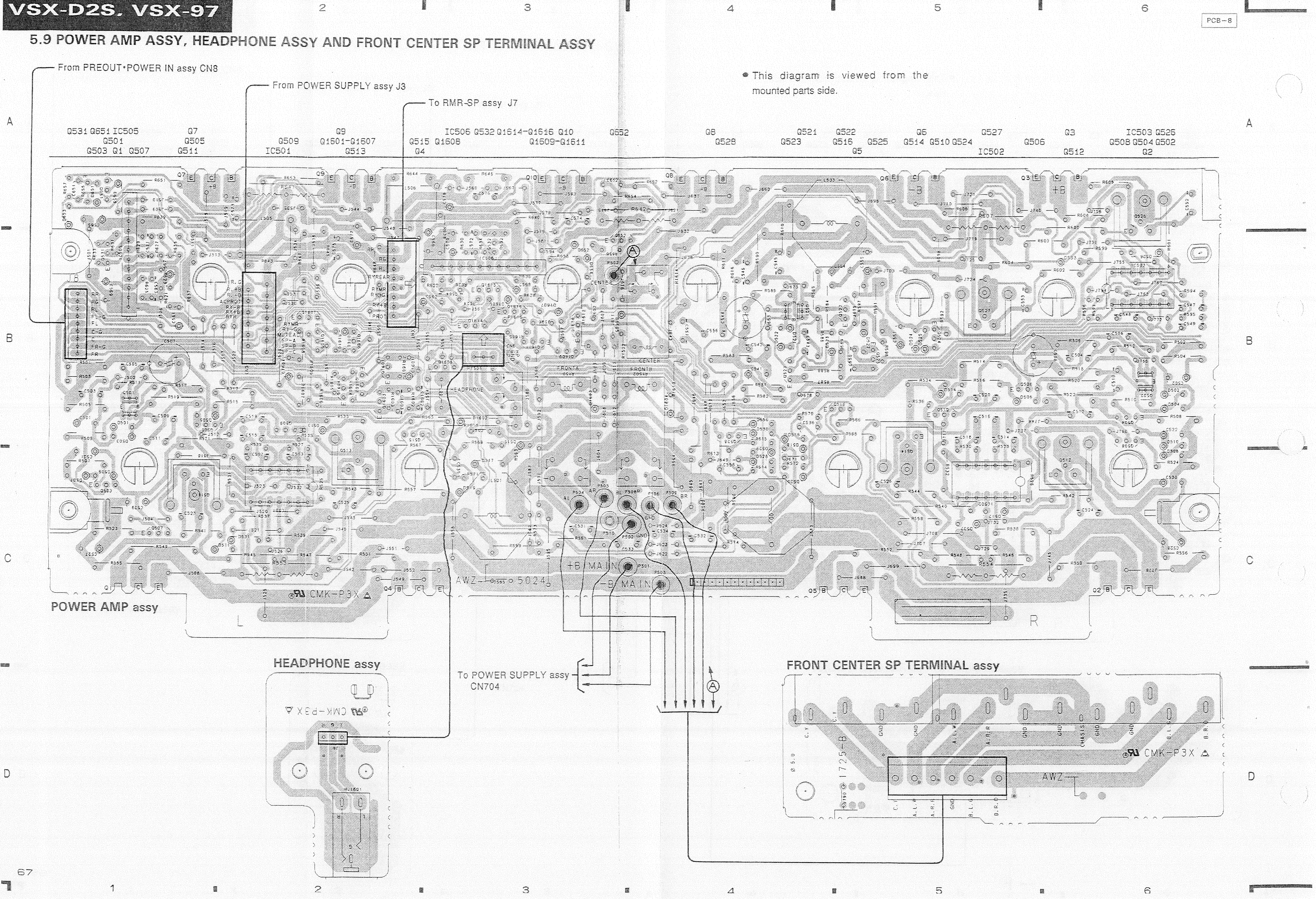
- This diagram is viewed from the foil side.

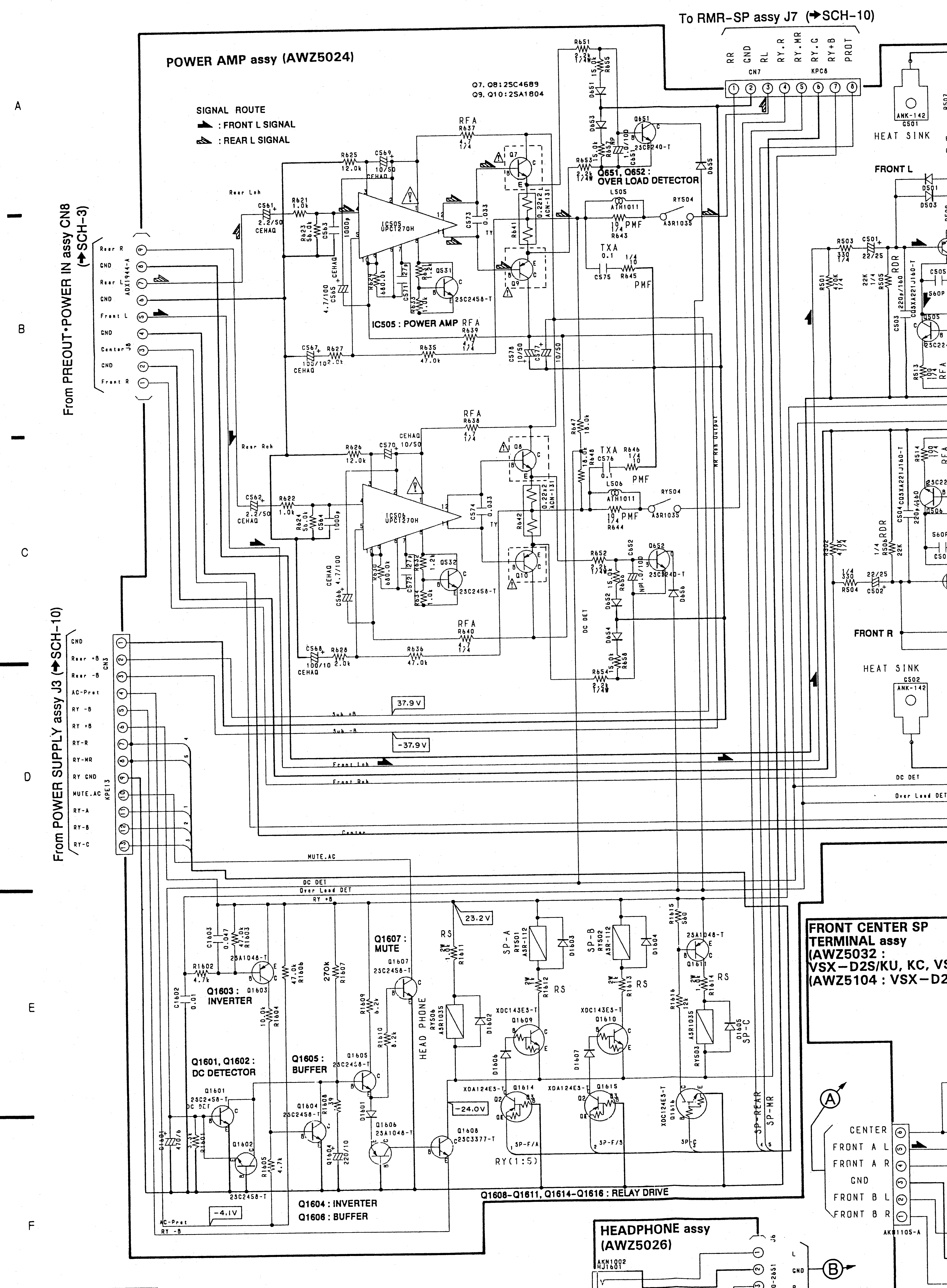


From PREOUT•POWER IN assy CN8
From POWER SUPPLY assy J3
To RMR-SP assy J7
POWER AMP assy
FRONT CENTER SP TERMINAL assy
HEADPHONE assy
To POWER SUPPLY assy CN704
A
B
C
D
1
2
3
4
5
6
+B MAIN
-B MAIN
CENTER
FRONT
HEADPHONE
CMK-P3X
CMK-P4X
R
L

5.9 POWER AMP ASSY, HEADPHONE ASSY AND FRONT CENTER SP TERMINAL ASSY

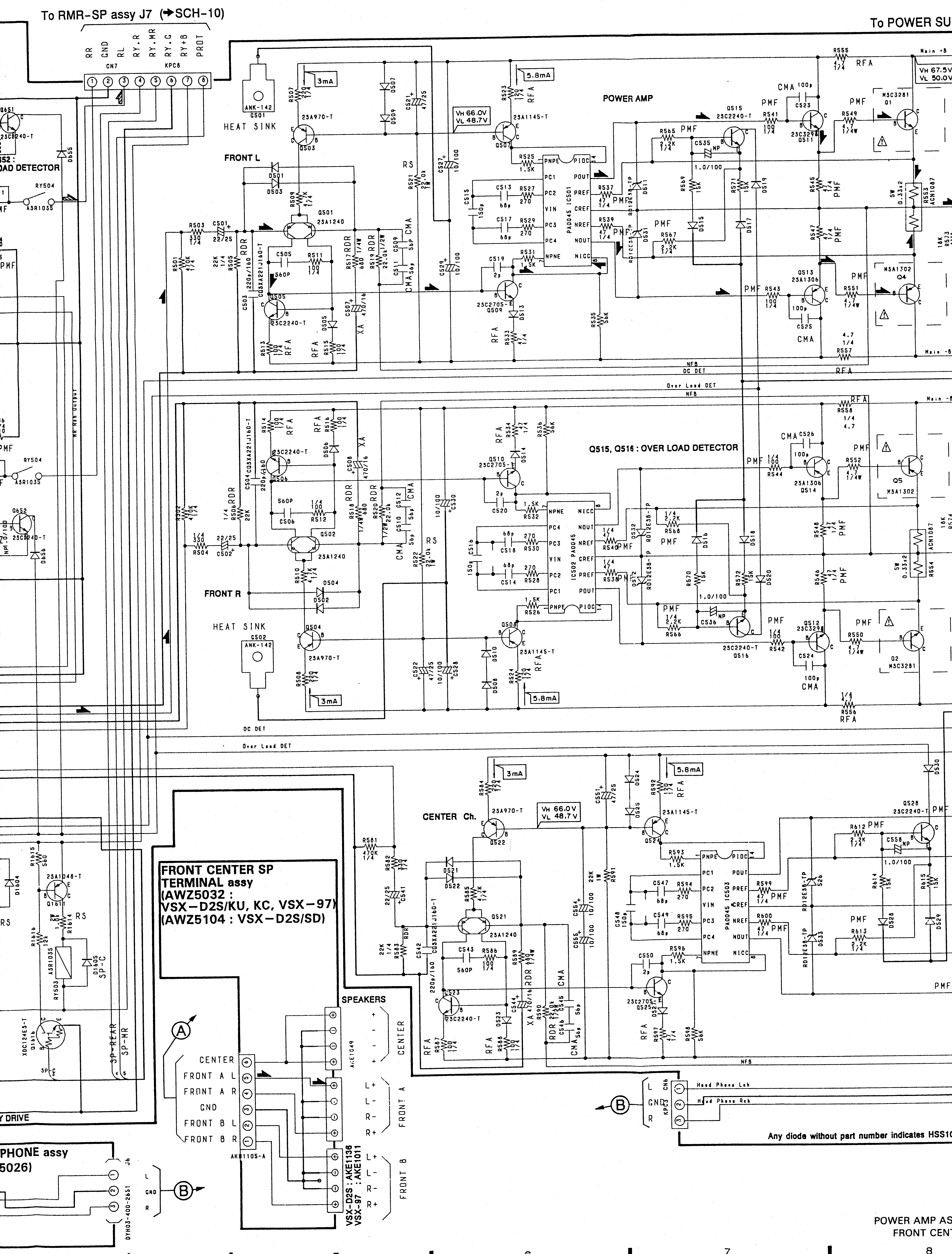
- This diagram is viewed from the mounted parts side.


1
2
3
4
5
6
A
B
C
D
From PREOUT•POWER IN assy CN8
From POWER SUPPLY assy J3
To RMR-SP assy J7
Q531 Q651 IC505
Q501
Q503 Q1 Q507
Q7
Q505
Q511
Q509
IC501
Q9
Q1601–Q1607
Q513
Q515 Q1608
Q4
IC506 Q532 Q1614–Q1616 Q10
Q1609–Q1611
Q652
Q8
Q528
Q521
Q523
Q522
Q516
Q525
Q5
Q6
Q514 Q510 Q524
Q527
IC502
Q506
Q3
Q512
IC503 Q526
Q508 Q504 Q502
Q2
HEADPHONE
CENTER
FRONT-A
FRONT-B
AL
AR
BL
BR
GND
+B MAIN
-B MAIN
AWZ-5024
CMK-P3X
L
R
POWER AMP assy
HEADPHONE assy
To POWER SUPPLY assy CN704
Ⓐ
FRONT CENTER SP TERMINAL assy
C.Y
GND
A.L.W
A.R.R
CHASSIS
B.L.G
B.R.B
1725-B
AWZ
J1601


To RMR-SP assy J7 (➔SCH-10)
POWER AMP assy (AWZ5024)
Q7, Q8: 2SC4689
Q9, Q10: 2SA1804
SIGNAL ROUTE
: FRONT L SIGNAL
: REAR L SIGNAL
RR
GND
RL
RY.R
RY.MR
RY.C
RY+B
PROT
CN7
KPC8
Q651, Q652 : OVER LOAD DETECTOR
IC505 UPC1270H
IC505 : POWER AMP
IC506 UPC1270H
From PREOUT•POWER IN assy CN8 (➔SCH-3)
Rear R
GND
Rear L
GND
Front L
GND
Center
GND
Front R
ADX1944-A
J8
From POWER SUPPLY assy J3 (➔SCH-10)
GND
Rear +B
Rear -B
AC-Prot
RY -B
RY +B
RY-R
RY-MR
RY GND
MUTE.AC
RY-A
RY-B
RY-C
CN3
KPE13
37.9V
-37.9V
Sub +B
Sub -B
Front Lch
Front Rch
Center
MUTE.AC
DC DET
Over Load DET
RY +B
23.2V
-24.0V
-4.1V
Q1603 : INVERTER
Q1607 : MUTE
Q1601, Q1602 : DC DETECTOR
Q1605 : BUFFER
Q1604 : INVERTER
Q1606 : BUFFER
Q1608–Q1611, Q1614–Q1616 : RELAY DRIVE
HEAD PHONE
SP-A
SP-B
SP-C
SP-REAR
SP-MR
RY(1:5)
HEAT SINK
ANK-142
FRONT L
FRONT R
DC DET
Over Load DET
FRONT CENTER SP TERMINAL assy
(AWZ5032 :
VSX-D2S/KU, KC, VS
(AWZ5104 : VSX-D2
CENTER
FRONT A L
FRONT A R
GND
FRONT B L
FRONT B R
HEADPHONE assy
(AWZ5026)
AKN1002
HJ1601
DYH03-400-2651
J6
L
GND
R
A
B
1
2
3
4
A
B
C
D
E
F

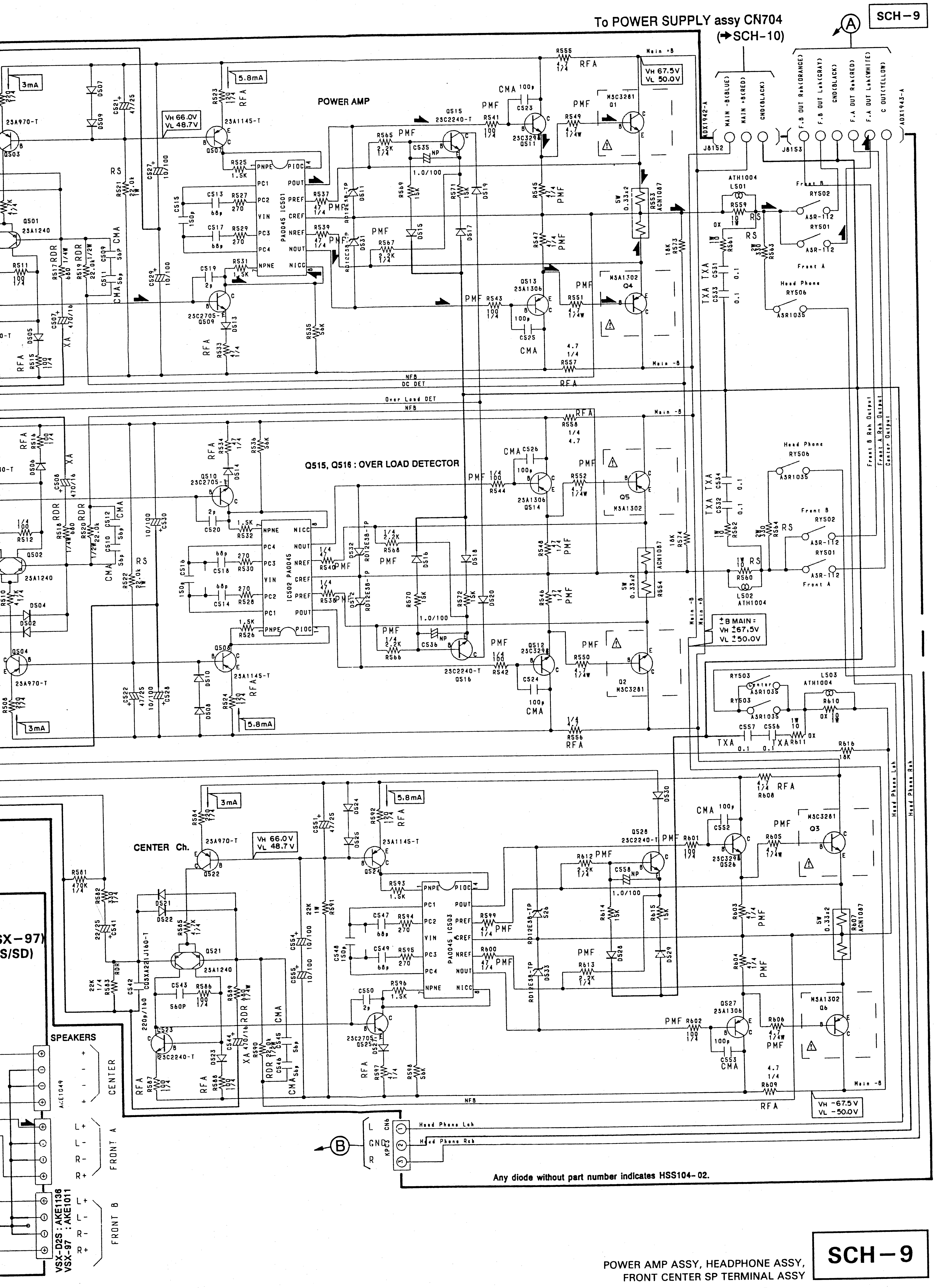
SCH－9

POWER AMP ASSY, HEADPHONE ASSY,
FRONT CENTER SP TERMINAL ASSY


To RMR-SP assy J7 (➔SCH-10)
To POWER SU
RR
GND
RL
RY.R
RY.MR
RY.G
RY+B
PROT
CN7
KPC8
ANK-142
G501
HEAT SINK
FRONT L
POWER AMP
VH 66.0V
VL 48.7V
VH 67.5V
VL 50.0V
3mA
5.8mA
23A970-T
23A1145-T
23C2240-T
23C3298
23A1306
23C2705-T
23A1240
PA0045 IC501
PA0045 IC502
PA0045 IC503
M3C3281
M3A1302
Q1
Q2
Q4
Q5
RFA
PMF
RDR
CMA
RS
XA
NFB
DC DET
Over Load DET
Q515, Q516 : OVER LOAD DETECTOR
FRONT R
HEAT SINK
G502
ANK-142
CENTER Ch.
FRONT CENTER SP TERMINAL assy
(AWZ5032 : VSX-D2S/KU, KC, VSX-97)
(AWZ5104 : VSX-D2S/SD)
SPEAKERS
CENTER
FRONT A L
FRONT A R
GND
FRONT B L
FRONT B R
FRONT A
FRONT B
AKE1049
AKB1105-A
VSX-D2S : AKE1136
VSX-97 : AKE1011
Ⓐ
Ⓑ
L
GND
R
CN6
KPC3
Head Phone Lch
Head Phone Rch
PHONE assy
5026)
J6
DYH03-400-2651
Y DRIVE
SP-REAR
SP-MR
SP-C
RY503
RY504
A3R1035
D1604
D1605
Q1616
Q1611
23A1048-T
XDC124E3-T
Q651
Q652
D655
D656
AD DETECTOR
MR Rch Output

Any diode without part number indicates HSS10

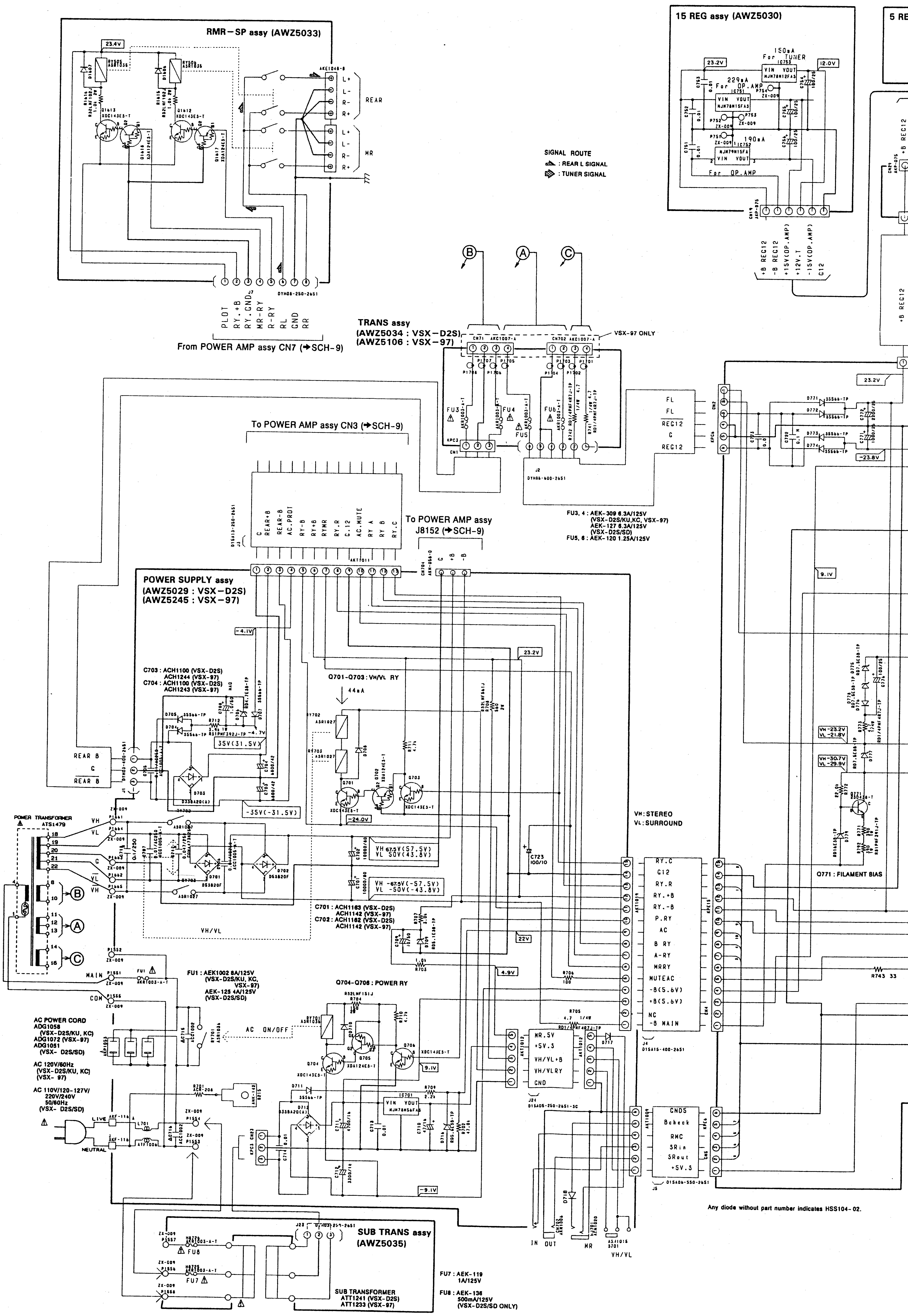
POWER AMP AS
FRONT CENT


To POWER SUPPLY assy CN704
(→SCH-10)
SCH-9
A
POWER AMP
Q515, Q516 : OVER LOAD DETECTOR
CENTER Ch.
VH 66.0V
VL 48.7V
VH 67.5V
VL 50.0V
±B MAIN :
VH ±67.5V
VL ±50.0V
VH -67.5V
VL -50.0V
3mA
5.8mA
IC501 PA0045
IC502 PA0045
IC503 PA0045
PNPE
PIOC
PC1
PC2
PC3
PC4
VIN
NPNE
NICC
POUT
PREF
CREF
NREF
NOUT
Q501 2SA1240
Q502 2SA1240
Q503
Q504 2SA970-T
Q507 2SA1145-T
Q508 2SA1145-T
Q509 2SC2705-T
Q510 2SC2705-T
Q511 2SC3298
Q512 2SC3298
Q513 2SA1306
Q514 2SA1306
Q515 2SC2240-T
Q516 2SC2240-T
Q1 MSC3281
Q2 MSC3281
Q3 MSC3281
Q4 MSA1302
Q5 MSA1302
Q6 MSA1302
Q521 2SA1240
Q522 2SA970-T
Q523 2SC2240-T
Q524 2SA1145-T
Q525 2SC2705
Q526 2SC3298
Q527 2SA1306
Q528 2SC2240-T
R553 ACN1087
R554 ACN1087
R607 ACN1087
SW 0.33x2
ATH1004
L501
L502
L503
RY501 ASR-112
RY502 ASR-112
RY503 ASR1035
RY506 ASR1035
Front A
Front B
Head Phone
Center
J8152
J8153
ADX1942-A
ADX1943-A
MAIN -B(BLUE)
MAIN +B(RED)
GND(BLACK)
F.B OUT Rch(ORANGE)
F.B OUT Lch(GRAY)
GND(BLACK)
F.A OUT Rch(RED)
F.A OUT Lch(WHITE)
C OUT(YELLOW)
Main +B
Main -B
NFB
DC DET
Over Load DET
Front B Rch Output
Front A Rch Output
Center Output
Head Phone Lch
Head Phone Rch
PMF
RFA
RDR
CMA
RS
TXA
XA
SPEAKERS
AKE1049
CENTER
FRONT A
FRONT B
L+
L-
R-
R+
VSX-D2S : AKE1136
VSX-97 : AKE1011
SX-97)
S/SD)
B
CN6
KPC3
L
GND
R
5
6
7
8
9
A
B
C
D
E
F

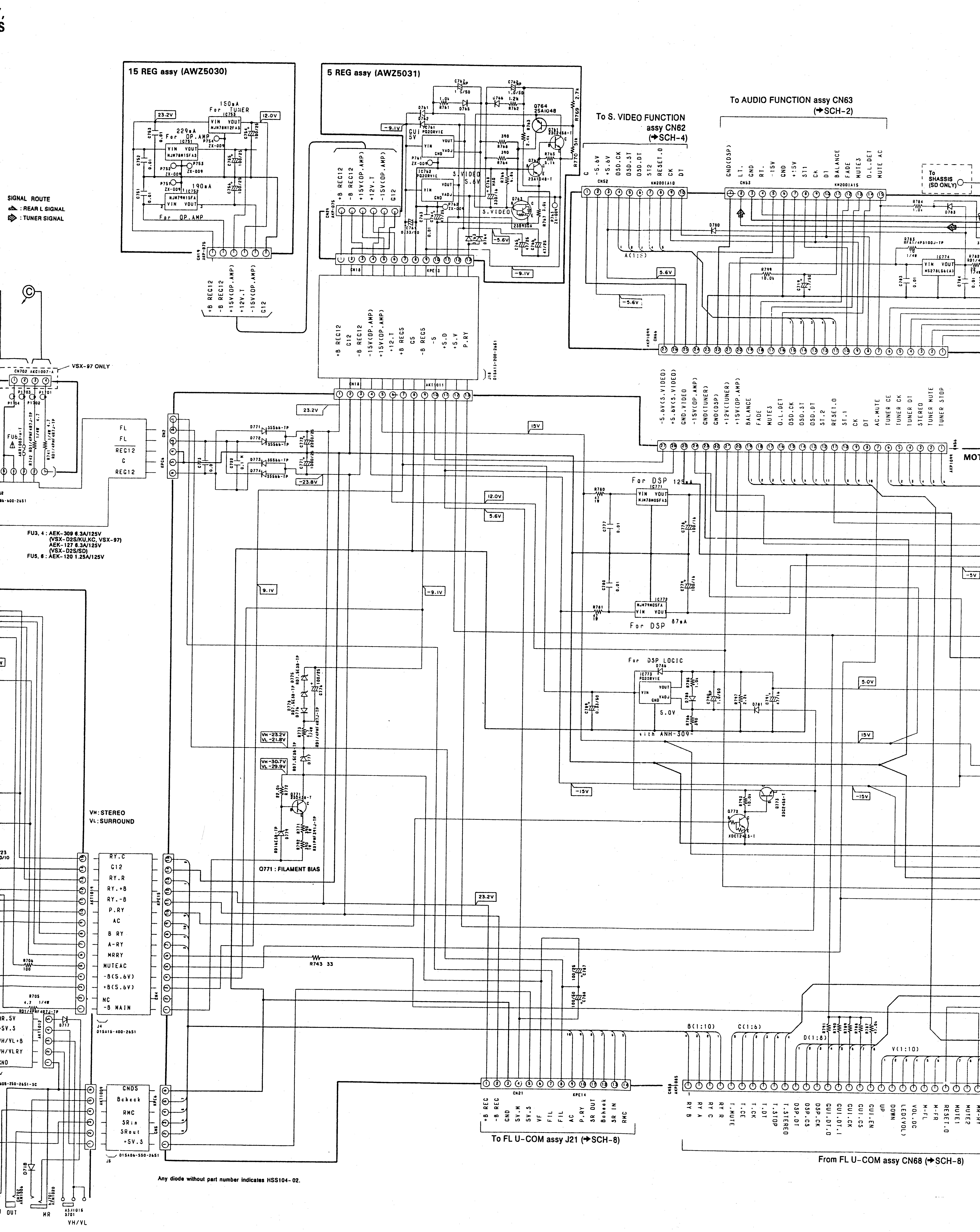
Any diode without part number indicates HSS104-02.

POWER AMP ASSY, HEADPHONE ASSY,
FRONT CENTER SP TERMINAL ASSY

5.10 POWER SUPPLY ASSY, MOTHER (1) ASSY, MOTHER (2) ASSY, RMR-SP ASSY, TRANS ASSY, SUB TRANS ASSY, 15 REG ASSY, 5 REG ASSY AND ADJACENCIES TO THE POWER TRANSFORMER

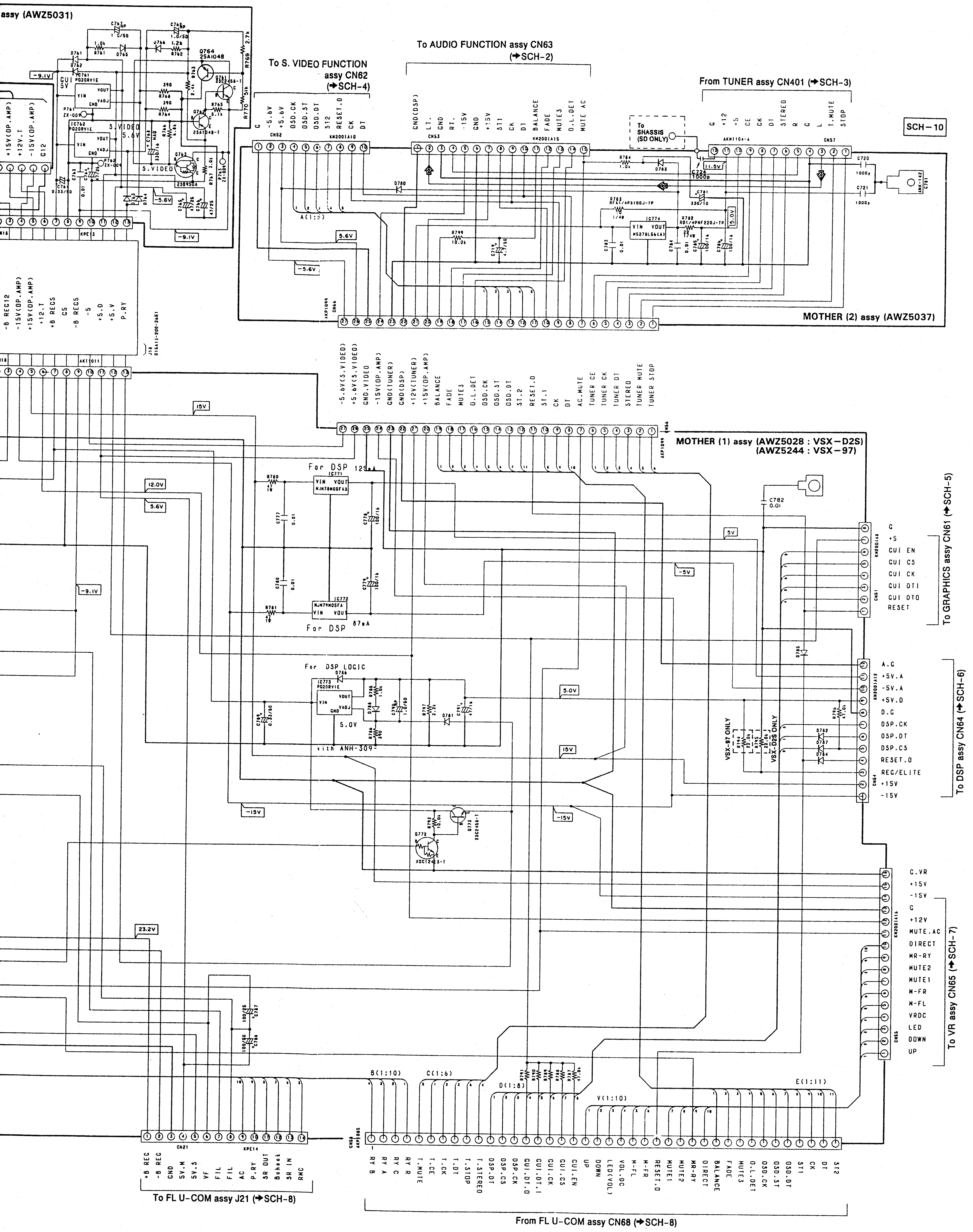

RMR-SP assy (AWZ5033)
23.4V
AKE1048-8
L+
L-
R-
R+
REAR
MR
PLOT
RY.+B
RY.GND
MR-RY
R-RY
RL
GND
RR
DYH06-250-2651
From POWER AMP assy CN7 (➔SCH-9)
SIGNAL ROUTE
: REAR L SIGNAL
: TUNER SIGNAL
15 REG assy (AWZ5030)
5 RE
150mA
For TUNER
229mA
For OP.AMP
190mA
For OP.AMP
23.2V
12.0V
NJM78M12FA
NJM78M15FA
NJM79M15FA
VIN VOUT
+B REG12
-B REG12
+15V(OP.AMP)
+12V.T
-15V(OP.AMP)
G12
B
A
C
TRANS assy
(AWZ5034 : VSX-D2S)
(AWZ5106 : VSX-97)
VSX-97 ONLY
CN71 AKC1007-A
CN702 AKC1007-A
FU3
FU4
FU5
FU6
FL
FL
REG12
G
REG12
23.2V
-23.8V
J2
DYH06-600-2651
FU3, 4 : AEK-309 6.3A/125V
(VSX-D2S/KU,KC, VSX-97)
AEK-127 6.3A/125V
(VSX-D2S/SD)
FU5, 6 : AEK-120 1.25A/125V
To POWER AMP assy CN3 (➔SCH-9)
G
REAR+B
REAR-B
AC.PROT
RY-B
RY+B
RYMR
RY.R
C.12
AC.MUTE
RY A
RY B
RY C
AKT7011
To POWER AMP assy
J8152 (➔SCH-9)
G
+B
-B
POWER SUPPLY assy
(AWZ5029 : VSX-D2S)
(AWZ5245 : VSX-97)
-4.1V
C703 : ACH1100 (VSX-D2S)
ACH1244 (VSX-97)
C704 : ACH1100 (VSX-D2S)
ACH1243 (VSX-97)
-4.7V
35V(31.5V)
-35V(-31.5V)
REAR B
G
REAR B
Q701-Q703 : VH/VL RY
44mA
-24.0V
23.2V
VH 67.5V(57.5V)
VL 50V(43.8V)
VH -67.5V(-57.5V)
VL -50V(-43.8V)
C723
100/10
C701 : ACH1163 (VSX-D2S)
ACH1142 (VSX-97)
C702 : ACH1162 (VSX-D2S)
ACH1142 (VSX-97)
VH/VL
22V
4.9V
POWER TRANSFORMER
ATS1479
VH
VL
G
VL
VH
MAIN
COM
FU1 : AEK1002 8A/125V
(VSX-D2S/KU, KC,
VSX-97)
AEK-125 4A/125V
(VSX-D2S/SD)
Q704-Q706 : POWER RY
AC ON/OFF
9.1V
AC POWER CORD
ADG1058
(VSX-D2S/KU, KC)
ADG1072 (VSX-97)
ADG1051
(VSX- D2S/SD)
AC 120V/60Hz
(VSX-D2S/KU, KC)
(VSX- 97)
AC 110V/120-127V/
220V/240V
50/60Hz
(VSX- D2S/SD)
LIVE
NEUTRAL
NJM78M5FA
-9.1V
VH:STEREO
VL:SURROUND
RY.C
G12
RY.R
RY.+B
RY.-B
P.RY
AC
B RY
A-RY
MRRY
MUTEAC
-B(5.6V)
+B(5.6V)
NC
-B MAIN
MR.5V
+5V.S
VH/VL+B
VH/VLRY
GND
GNDS
Bcheck
RMC
SRin
SRout
+5V.S
IN OUT
MR
VH/VL
9.1V
VH-23.2V
VL-21.8V
VH-30.7V
VL-29.9V
Q771 : FILAMENT BIAS
R743 33
SUB TRANS assy
(AWZ5035)
FU7
FU8
SUB TRANSFORMER
ATT1241 (VSX-D2S)
ATT1233 (VSX-97)
FU7 : AEK-119
1A/125V
FU8 : AEK-136
500mA/125V
(VSX-D2S/SD ONLY)

Any diode without part number indicates HSS104-02.


15 REG assy (AWZ5030)
5 REG assy (AWZ5031)
To S. VIDEO FUNCTION assy CN62 (➔SCH-4)
To AUDIO FUNCTION assy CN63 (➔SCH-2)
To SHASSIS (SD ONLY)
SIGNAL ROUTE
: REAR L SIGNAL
: TUNER SIGNAL
For TUNER 150mA IC753 NJM78M12FA3
For OP.AMP 229mA IC751 NJM78M15FA3
For OP.AMP 190mA IC752 NJM79M15FA
23.2V
12.0V
-9.1V
5.6V
-5.6V
CN702 AKC1007-A
VSX-97 ONLY
FU3, 4 : AEK-309 6.3A/125V (VSX-D2S/KU,KC, VSX-97) AEK-127 6.3A/125V (VSX-D2S/SD)
FU5, 6 : AEK-120 1.25A/125V
FL
FL
REG12
C
REG12
23.2V
15V
-23.8V
12.0V
5.6V
For DSP 125mA IC771 NJM78M05FA3
For DSP 87mA IC772 NJM79M05FA
For DSP LOGIC IC773 PQ20RV1E
5.0V
with ANH-309
9.1V
-9.1V
VH -23.2V VL -21.8V
VH -30.7V VL -29.9V
-15V
15V
VH:STEREO
VL:SURROUND
Q771 : FILAMENT BIAS
RY.C
G12
RY.R
RY.+B
RY.-B
P.RY
AC
B RY
A-RY
MRRY
MUTEAC
-B(5.6V)
+B(5.6V)
NC
-B MAIN
GNDS
Bcheck
RMC
SRin
SRout
+5V.S
R743 33
23.2V
+B REC
-B REC
GND
SV.M
SV.S
VF
FIL
FIL
AC
P.RY
SR OUT
Bcheck
SR IN
RMC
To FL U-COM assy J21 (➔SCH-8)
B(1:10)
C(1:6)
D(1:8)
V(1:10)
RY B
RY A
RY C
RY R
T.MUTE
T.CE
T.CK
T.DT
T.STEREO
T.STOP
DSP.DT
DSP.CK
DSP.CS
GUI.DT.O
GUI.DT.I
GUI.CK
GUI.CS
GUI.EN
UP
DOWN
LED(VOL)
VOL.DC
M-FL
M-FR
RESET.O
MUTE1
MUTE2
From FL U-COM assy CN68 (➔SCH-8)
MOT

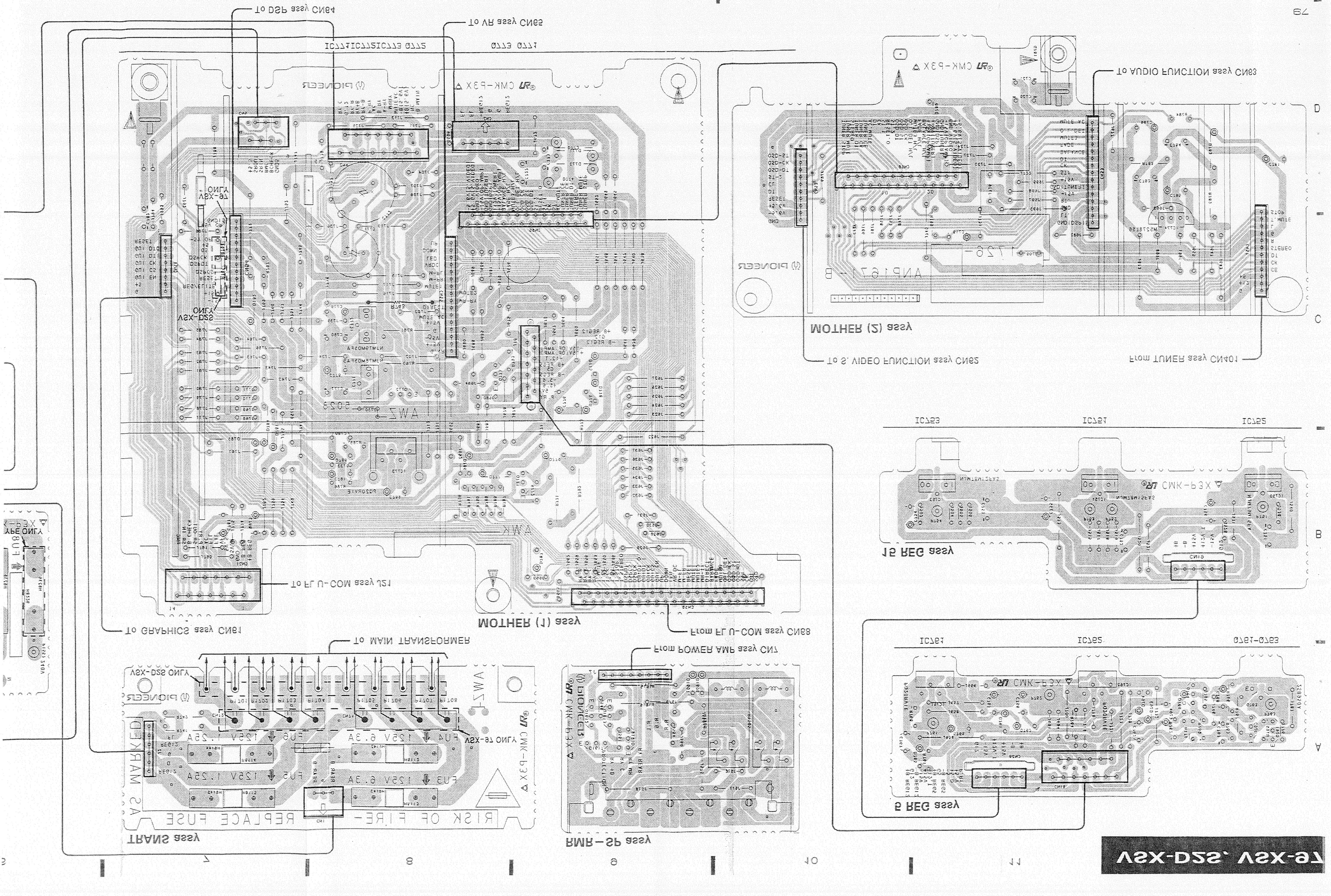
Any diode without part number indicates HSS104-02.

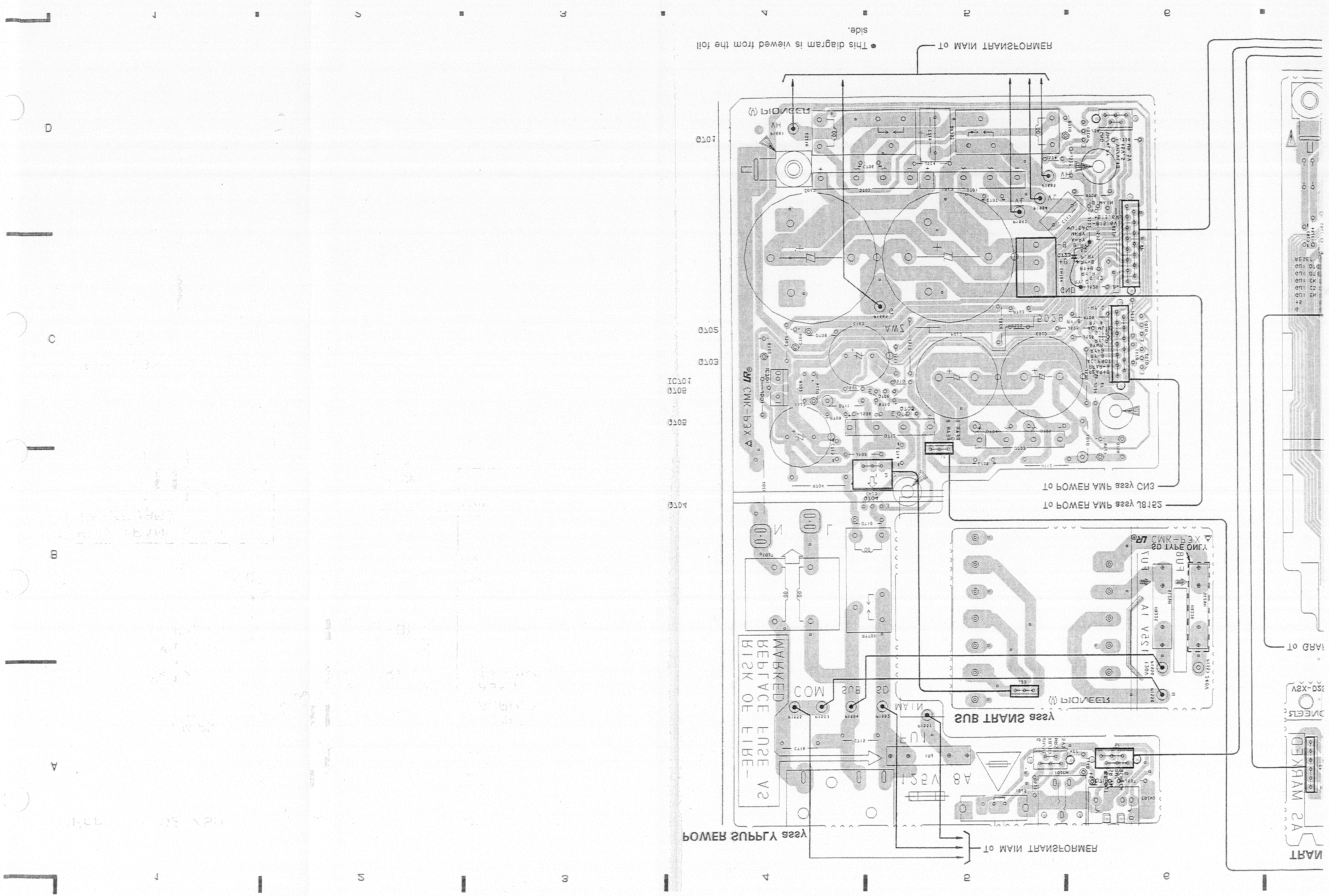
POWER SUPP
MOTH
TRA


assy (AWZ5031)
To S. VIDEO FUNCTION assy CN62 (➔SCH-4)
To AUDIO FUNCTION assy CN63 (➔SCH-2)
From TUNER assy CN401 (➔SCH-3)
SCH-10
To SHASSIS (SD ONLY)
MOTHER (2) assy (AWZ5037)
MOTHER (1) assy (AWZ5028 : VSX-D2S)
(AWZ5244 : VSX-97)
To GRAPHICS assy CN61 (➔SCH-5)
To DSP assy CN64 (➔SCH-6)
To VR assy CN65 (➔SCH-7)
To FL U-COM assy J21 (➔SCH-8)
From FL U-COM assy CN68 (➔SCH-8)
For DSP 125mA
For DSP 87mA
For DSP LOGIC
IC771 NJM78M05FA
IC772 NJM79M05FA
IC773 PQ05RV1E
IC774 M5278L06(A)
Q764 2SA1048
Q771
Q772
VSX-97 ONLY
VSX-D2S ONLY
with ANH-309
-9.1V
5.6V
-5.6V
15V
12.0V
5.0V
-15V
23.2V
11.5V
5V
-5V
CN52
CN53
CN57
CN21
CN61
CN64
CN65
CN68
KPE13
KPE14
G
CUI EN
CUI CS
CUI CK
CUI DT1
CUI DTO
RESET
A.G
+5V.A
-5V.A
+5V.D
D.G
DSP.CK
DSP.DT
DSP.CS
RESET.O
REG/ELITE
+15V
-15V
C.VR
+12V
MUTE.AC
DIRECT
MR-RY
MUTE2
MUTE1
M-FR
M-FL
VRDC
LED
DOWN
UP
+B REC
-B REC
GND
SV.M
SV.S
VF
FIL
AC
P.RY
SR OUT
Bcheck
SR IN
RMC
RY B
RY A
RY C
RY R
T.MUTE
T.CE
T.CK
T.DT
T.STOP
T.STEREO
DSP.DT
DSP.CS
DSP.CK
CUI.DT.O
CUI.DT.I
CUI.CK
CUI.CS
CUI.EN
LED(VOL)
VOL.DC
RESET.O
BALANCE
FADE
MUTE3
O.L.DET
OSD.CK
OSD.ST
OSD.DT
ST1
CK
DT
ST2
B(1:10)
C(1:6)
D(1:8)
V(1:10)
E(1:11)
A(1:5)

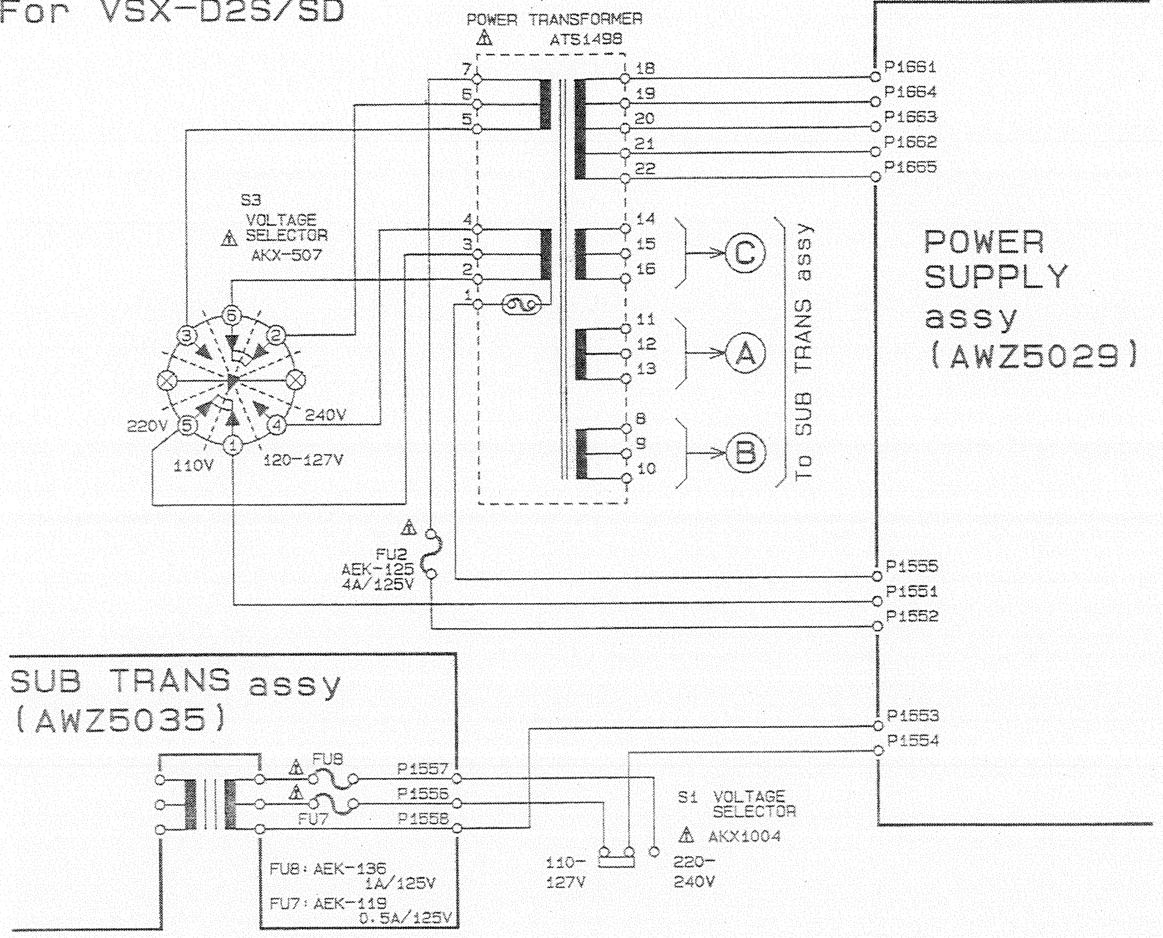
POWER SUPPLY ASSY, MOTHER (1) ASSY,
MOTHER (2) ASSY, RMR-SP ASSY,
TRANS ASSY, SUB TRANS ASSY,
15 REG ASSY, 5 REG ASSY

SCH-10

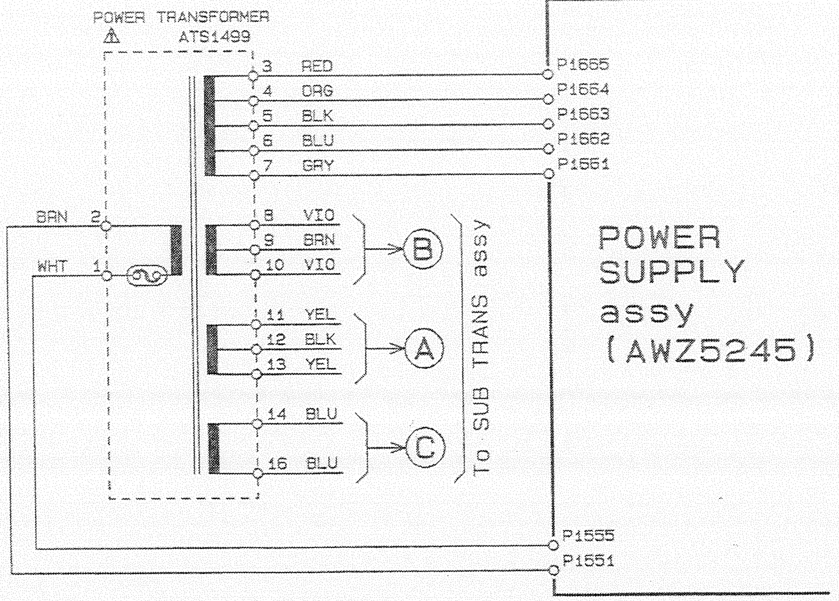

VSX-D2S, VSX-97
MOTHER (1) assy
MOTHER (2) assy
TRANS assy
RMR-SP assy
15 REG assy
5 REG assy
To DSP assy CN64
To VR assy CN65
To AUDIO FUNCTION assy CN63
From TUNER assy CN401
To S. VIDEO FUNCTION assy CN62
To FL U-COM assy J21
To GRAPHICS assy CN61
From FL U-COM assy CN88
To MAIN TRANSFORMER
From POWER AMP assy CN7
VSX-D2S ONLY
VSX-97 ONLY
PIONEER
AS MARKED REPLACE FUSE RISK OF FIRE
A

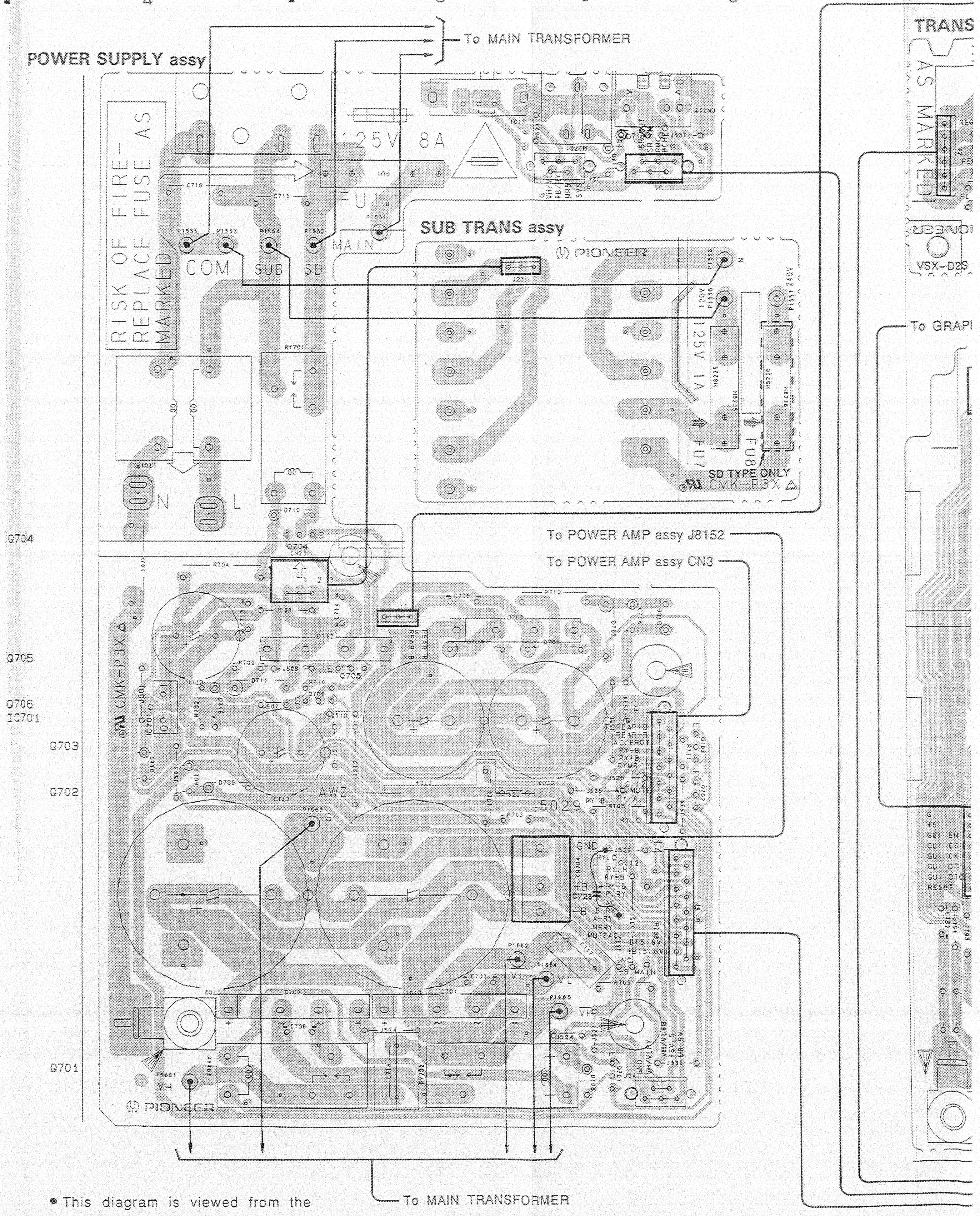

● This diagram is viewed from the foil side.
To MAIN TRANSFORMER
POWER SUPPLY assy
SUB TRANS assy
To MAIN TRANSFORMER
To POWER AMP assy CN3
To POWER AMP assy J8152
MARKED
REPLACE FUSE AS
RISK OF FIRE-
125V 8A
FU1
COM
SUB
SD
MAIN
CMK-P3X
SD TYPE ONLY
FU7
FU8
125V 1A
PIONEER
CMK-P4X
PIONEER
VH
VL
GND
Q701
Q702
Q703
Q704
Q705
Q706
IC701
TRAN
SA MARKED
VSX-D2
To GRA
A
B
C
D
1
2
3
4
5
6

For VSX-D2S/SD

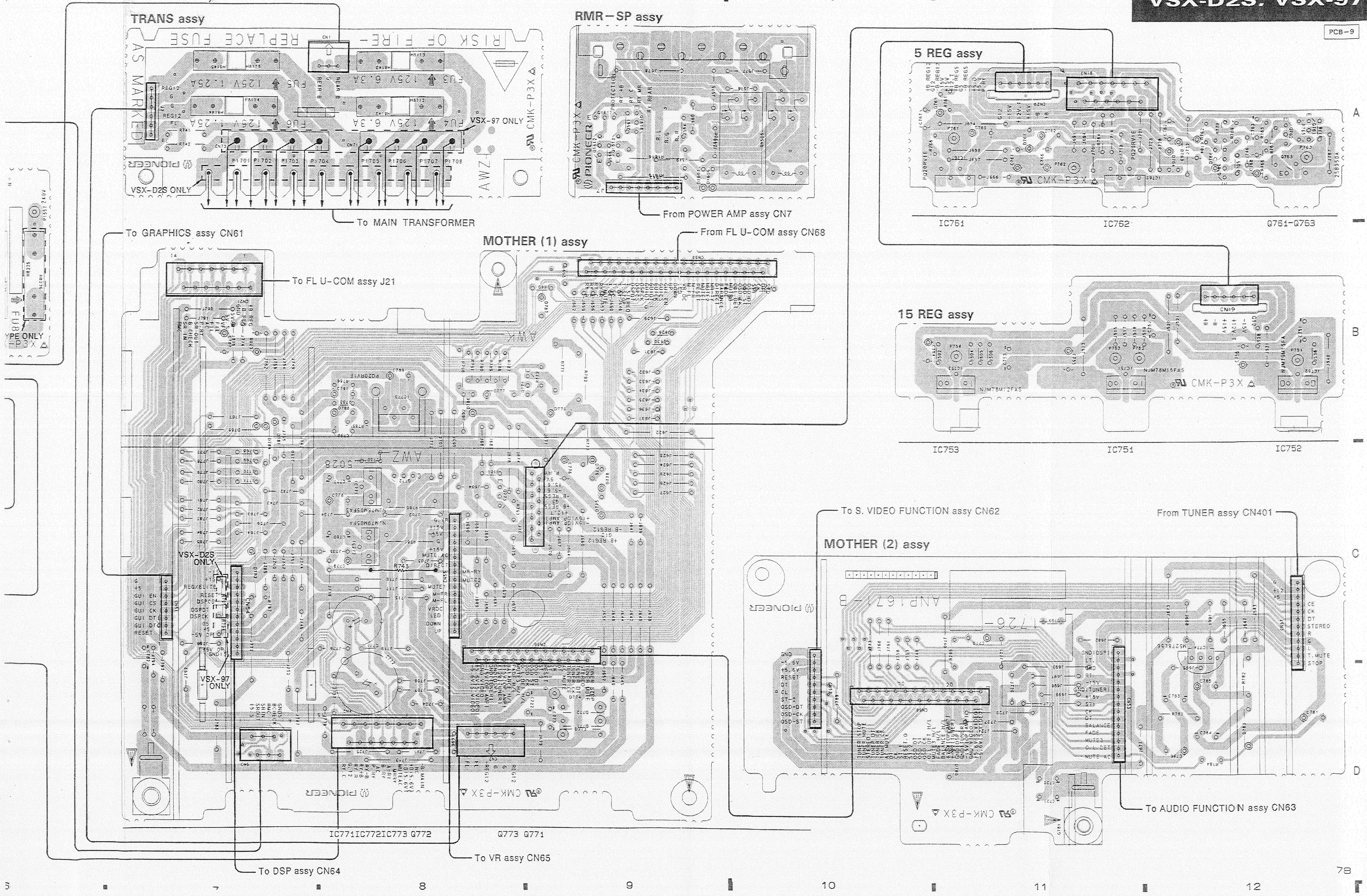

POWER TRANSFORMER
ATS1498
S3
VOLTAGE SELECTOR
AKX-507
220V
240V
110V
120-127V
FU2
AEK-125
4A/125V
P1661
P1664
P1663
P1662
P1665
P1555
P1551
P1552
P1553
P1554
POWER SUPPLY assy (AWZ5029)
To SUB TRANS assy
SUB TRANS assy (AWZ5035)
FU8
FU7
P1557
P1556
P1558
FU8: AEK-136 1A/125V
FU7: AEK-119 0.5A/125V
S1 VOLTAGE SELECTOR
AKX1004
110-127V
220-240V

For VSX-97/KU/CA


POWER TRANSFORMER
ATS1499
RED
ORG
BLK
BLU
GRY
VIO
BRN
VIO
YEL
BLK
YEL
BLU
BLU
BRN
WHT
P1665
P1664
P1663
P1662
P1661
P1555
P1551
POWER SUPPLY assy (AWZ5245)
To SUB TRANS assy


To MAIN TRANSFORMER
POWER SUPPLY assy
RISK OF FIRE-REPLACE FUSE AS MARKED
125V 8A
FU1
COM
SUB
SD
MAIN
SUB TRANS assy
PIONEER
125V 1A
FU7
FU8
SD TYPE ONLY
CMK-P3X
To POWER AMP assy J8152
To POWER AMP assy CN3
Q704
Q705
Q706
IC701
Q703
Q702
Q701
AWZ5029
VH
VL
PIONEER
To MAIN TRANSFORMER
TRANS
AS MARKED
VSX-D2S
To GRAPI

- This diagram is viewed from the mounted parts side.


TRANS assy
RISK OF FIRE - REPLACE FUSE AS MARKED
FU3 125V 6.3A
FU4 125V 6.3A
FU5 125V 1.25A
FU6 125V 1.25A
VSX-97 ONLY
VSX-D2S ONLY
To MAIN TRANSFORMER
RMR-SP assy
From POWER AMP assy CN7
5 REG assy
IC751
IC752
Q751-Q763
15 REG assy
NJM78M15FAS
NJM78M12FAS
IC753
IC751
IC752
To GRAPHICS assy CN61
MOTHER (1) assy
From FL U-COM assy CN68
To FL U-COM assy J21
VSX-D2S ONLY
VSX-97 ONLY
IC771 IC772 IC773 Q772
Q773 Q771
To DSP assy CN64
To VR assy CN65
To S. VIDEO FUNCTION assy CN62
From TUNER assy CN401
MOTHER (2) assy
To AUDIO FUNCTION assy CN63
CMK-P3X
PIONEER
7
8
9
10
11
12
A
B
C
D

6. PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

$560\Omega \rightarrow 56 \times 10^1 \rightarrow 561$ .... RD1/8PM $\boxed{5}\boxed{6}\boxed{1}$ J
$47k\Omega \rightarrow 47 \times 10^3 \rightarrow 473$ .... RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$ J
$0.5\Omega \rightarrow 0R5$ .... RN2H $\boxed{0}\boxed{R}\boxed{5}$ K
$1\Omega \rightarrow 010$ .... RS1P $\boxed{0}\boxed{1}\boxed{0}$ K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

$5.62k\Omega \rightarrow 562 \times 10^1 \rightarrow 5621$ .... RM1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F

6.1 LIST OF WHOLE PCB ASSEMBLIES

Mark	PCB Assemblies	VSX-D2S			VSX-97/ KU/CA	Remarks
		KU	KC	SD		
	TUNER Assembly	AWE1160	AWE1160	AWE1160	AWE1160	
⚠ NSP	A/V FUNC Assy	AWK1724	AWK1724	AWK1724	AWK1742	
	├─ AUDIO FUNCTION Assy	AWZ5019	AWZ5019	AWZ5019	AWZ5246	
	├─ A/V FUNCTION Assy	AWZ5020	AWZ5020	AWZ5020	AWZ5247	
	├─ PREOUT • POWER IN Assy	AWZ5021	AWZ5021	AWZ5021	AWZ5021	
	├─ S. VIDEO FUNCTION Assy	AWZ5022	AWZ5022	AWZ5022	AWZ5248	
	└─ VIDEO FUNCTION Assy	AWZ5023	AWZ5023	AWZ5023	AWZ5102	
NSP	AMP U. COM Assy	AWK1725	AWK1725	AWK1767	AWK1743	
	├─ POWER AMP Assy	AWZ5024	AWZ5024	AWZ5024	AWZ5024	
NSP	├─ HEADPHONE Assy	AWZ5026	AWZ5026	AWZ5026	AWZ5026	
	├─ FL U-COM Assy	AWZ5027	AWZ5027	AWZ5027	AWZ5103	
NSP	└─ FRONT CENTER SP TERMINAL Assy	AWZ5032	AWZ5032	AWZ5104	AWZ5032	
NSP	POWER SUPPLY Assy	AWK1726	AWK1726	AWK1726	AWK1745	
	├─ MOTHER (1) Assy	AWZ5028	AWZ5028	AWZ5028	AWZ5244	
	├─ POWER SUPPLY Assy	AWZ5029	AWZ5029	AWZ5029	AWZ5245	
NSP	├─ 15 REG Assy	AWZ5030	AWZ5030	AWZ5030	AWZ5030	
NSP	├─ 5 REG Assy	AWZ5031	AWZ5031	AWZ5031	AWZ5031	
NSP	├─ RMR-SP Assy	AWZ5033	AWZ5033	AWZ5033	AWZ5033	
NSP	├─ TRANS Assy	AWZ5034	AWZ5034	AWZ5034	AWZ5106	*1
NSP	├─ SUB TRANS Assy	AWZ5035	AWZ5035	AWZ5035	AWZ5035	
	├─ VR Assy	AWZ5036	AWZ5036	AWZ5036	AWZ5036	
NSP	└─ MOTHER (2) Assy	AWZ5037	AWZ5037	AWZ5037	AWZ5037	
	GRAPHICS Assy	AWQ1023	AWQ1023	AWQ1023	AWQ1023	
	DSP Assy	AWX1061	AWX1061	AWX1061	AWX1061	

**1 : Although AWZ5106 and AWZ5034 are different in part number, they have the same service parts.*

6.2 FOR VSX−D2S/KU

TUNER ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC451		AN7470P
	IC431		LA1265S
	IC471		LM7001
	Q454		2SA933S
	Q452, Q453		2SC1740S
	Q472		2SC1740SLN
	Q451		2SC2603
	Q403, Q421		2SC2668
	Q402		2SC2786
	Q405		2SK161
	Q401		2SK241
	Q471		2SK246
	Q473, Q474		RN2201
	D431−D435		1SS252
	D401−D403		1SV147

COILS & TRANSFORMERS

Mark	No.	Description	Parts No.
	L401		ATC1001
	L402		ATC1002
	L405		ATC1003
	L403		ATC1004
	L404		ATC1005
	T402		ATE−063
	T431		ATE1001
	T432		ATE1002
	F421		ATF−107
	F422		ATF−119
	F461		ATF−164
	F431		ATF1042
	L406, L407		LAU2R2M

CAPACITORS

Mark	No.	Description	Parts No.
	C454	(470p/50)	ACE1039
	C466		CCCSL121J50
	C417		CCDCH010C50
	C406		CCDCH020C50
	C415		CCDCH080D50
	C413, C481, C482		CCDCH150J50
	C414		CCDCH330J50
	C401, C404, C405		CCDRH330J50
	C402		CCDRH390J50
	C416		CCDTH180J50
	C479		CCPUSL220J50
	C445		CCPUSL470J50
	C452		CEANP4R7M35
	C442		CEAS0R1M50
	C420, C437, C475		CEAS100M50
	C451		CEAS101M16
	C456		CEAS1R5M50
	C438		CEAS2R2M50
	C443, C455		CEAS3R3M50
	C458, C463, C464, C484		CEAS470M16
	C433, C461, C462		CEAS4R7M50
	C457		CEASR22M50
	C478		CFTXA224J50
	C477		CKCYF103Z50
	C439, C440		CKCYF223Z50
	C435		CKCYF472Z50
	C453		CKCYF473Z50
	C436		CKCYX683M25
	C409, C483		CKPUYB101K50
	C444		CKPUYB331K50
	C441, C472		CKPUYF223Z25
	C403, C410−C412, C418, C419, C421, C422, C465, C471, C473, C476, C480, C485,		CKPUYY103N16
	C459, C460		CQMA102J50
	C446, C477		CQMA561J50

RESISTORS

Mark	No.	Description	Parts No.
	VR451 (4.7k)		ACP1042
	VR431 (10k)		ACP1043
	VR432		VRTS6VS153
	Other Resistors		RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	X471 (7.200MHz)		ASS1005
	X431		ATF1027
		ANTENNA TERMINAL 4−P	AKA1014
		AM RF TUNING BLOCK	AXX1011

AUDIO FUNCTION ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC55, IC56		M51132L
	IC51		M5220P
	IC52, IC54		M5238LF
	IC58		M5238PF
	IC59		TC9163N
	IC60		TC9176P
	IC53		TC9274N−005
	IC57		XRA4558−P
	Q67, Q68		2SC2458
	Q61, Q62		2SC3327
	Q63		XDA124ES
	D121−D124		HSS104−02

CAPACITORS

Mark	No.	Description	Parts No.
	C71−C76		CCSQCH101J50
	C161, C162		CCSQCH102J50
	C53, C54		CCSQCH331J50
	C155, C157, C158		CCSQCH471J50
	C153, C154		CCSQCH820J50

Mark	No.	Description	Parts No.
	C121		CEAS010M50
	C51, C52, C77, C78, C101, C102		CEAS100M50
	C105, C106, C167		CEAS220M50
	C61, C62, C123, C124		CEAS2R2M50
	C145, C146		CEAS470M16
	C55, C56		CEAS471M6
	C81–C84, C103, C104, C107–C110, C151, C152, C163–C166		CEAS4R7M50
	C57, C58		CFTXA243J50
	C59, C60		CFTXA823J50
	C141–C144, C147, C148		CKSQYF473Z50

RESISTORS

Mark	No.	Description	Parts No.
		All Resistors	RS1/10S□□□J

OTHERS

Mark	No.	Description	Parts No.
		4P PIN JACK	AKB1101
		6P PIN JACK	AKB1138
	CN11	3P JUMPER CONNECTOR	KPE3

A/V FUNCTION ASSY

CAPACITORS

Mark	No.	Description	Parts No.
	C177, C178, C185, C186, C189, C190, C193, C194		CCSQCH101J50

RESISTORS

Mark	No.	Description	Parts No.
		All Resistors	RS1/10S□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN171, CN172	6P PIN JACK	AKB1129

PREOUT • POWER IN ASSY

CAPACITORS

Mark	No.	Description	Parts No.
	C667, C668, C675, C676, C682		CCSQCH101J50
	C677		CKSQYF472Z50
	C669		CKSQYF473Z50

RESISTORS

Mark	No.	Description	Parts No.
		All Resistors	RS1/10S□□□J

OTHERS

Mark	No.	Description	Parts No.
		4P PIN JACK	AKB1124
	CN664	1P PIN JACK	AKB1139
	CN663	2P PIN JACK	AKB1142

S. VIDEO FUNCTION ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC209, IC211		BU4066BL
	IC201–IC204		CXA1558L
	IC206		M51494L
	IC205, IC207		M5238PF
	IC208		M66311P
	IC210, IC216		MC14053BCP
	IC212–IC215		MC14577BP
	Q204, Q216, Q220, Q233–Q237		2SA1048
	Q201, Q205, Q211–Q214, Q217, Q222–Q225, Q227–Q229.Q232, Q238		2SC2458
	Q210		2SC3067
	Q203, Q209, Q218, Q219, Q226, Q230, Q231		XDA124ES
	Q202, Q208		XDC143ES
	D201–D209, D212–D224		HSS104–02
	D210		RD8.2ESB1

CAPACITORS

Mark	No.	Description	Parts No.
	C255, C256		CCSQCH102J50
	C253		CCSQCH121J50
	C228		CCSQCH150J50
	C219		CCSQCH151J50
	C261–C263		CCSQCH220J50
	C259, C260, C264		CCSQCH470J50
	C214, C216		CCSQCH471J50
	C235		CEAS010M50
	C241, C247, C248, C251		CEAS101M10
	C226		CEAS2R2M50
	C229		CEAS331M16
	C201–C204, C208–C212, C217, C224, C225, C227, C230–C232, C237, C238, C240, C243–C246, C249, C250, C252, C254, C257, C258, C267–C271		CEAS470M16
	C213, C215, C220, C233, C234, C236, C239, C242		CKSQYF103Z5
	C206, C218, C222		CKSQYF104Z50
	C205, C207, C221, C223		CKSQYF223Z50

RESISTORS

Mark	No.	Description	Parts No.
	R298		RN1/4PC1002F
	R286		RN1/4PC1022F
	R296		RN1/4PC1052F
	R1250		RN1/4PC1200F
	R294		RN1/4PC1781F
	R283		RN1/4PC2201F
	R287		RN1/4PC2202F
	R1245		RN1/4PC2700F
	R1221		RD1/8PM122J
		Other Resistors	RS1/10S□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN201	1P PIN JACK	AKB1145
	CN1201, CN1202	4P MINI DIN SOCKET	AKP1065

VIDEO FUNCTION ASSY

SEMICONDUCTORS

	IC302, IC303		CXA1558L
	IC305, IC306		MC14577BP
	IC301		NJM2233BS
	IC304		NJM2246L
	Q302		2SA1048
	Q331, Q332		2SC2458
	Q301		XDA143ES
	D340		RD5.1ESB
	DL331		ATN1012

COIL

	F330		ATF1084

CAPACITORS

	C316		CEANP470M10
	C312–C315, C320, C321, C343		CEAS101M10
	C323		CEAS102M6
	C311, C317		CEAS221M10
	C301–C305, C307–C310, C318, C319, C322, C340–C342		CEAS470M16
	C344		CKSQYF104Z50

RESISTORS

	R323, R324		RD1/4PMF100J
	R325, R326		RD1/4PMF470J
	R350		RS1PMF101J
	Other Resistors		RS1/10S101J

OTHERS

		2P PIN JACK (VCR1)	AKB1118
		2P PIN JACK (LD, TV)	AKB1134
	CN303	3P PIN JACK (VCR2, MULTI-ROOM)	AKB1143
		FILTER MODULE	AXX1040

POWER AMP ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC501–IC503		PA0045
	IC505, IC506		UPC1270H
	Q1603, Q1606, Q1611		2SA1048
	Q507, Q508, Q524		2SA1145
	Q501, Q502, Q521		2SA1240
	Q513, Q514, Q527		2SA1306
	Q503, Q504, Q522		2SA970
	Q505, Q506, Q515, Q516, Q523, Q528, Q651, Q652		2SC2240
	Q531, Q532, Q1601, Q1602, Q1604, Q1605, Q1607		2SC2458
	Q509, Q510, Q525		2SC2705
	Q511, Q512, Q526		2SC3298
	Q1608		2SC3377
	Q1614, Q1615		XDA124ES
	Q1616		XDC124ES
	Q1609, Q1610		XDC143ES
	D501–D510, D513–D525, D527–D530, D651–D656, D1601–D1607		HSS104–02
	D511, D512, D526, D531–D533		RD12ESB

RELAYS

	RY501, RY502		ASR–112
	RY503, RY506		ASR1035

COILS

	L501–L503		ATH1004
	L505, L506		ATH1011

CAPACITORS

	C519, C520, C550		CCCSL020C500
	C515, C516, C548		CCCSL151J50
	C571, C572		CCCSL270J50
	C513, C514, C517, C518, C547, C549		CCCSL680J50
	C535, C536, C558, C651, C652		CEANP010M100
	C527–C530, C554, C555		CEAS100M100
	C577, C578		CEAS100M50
	C501, C502, C541		CEAS220M25
	C1604		CEAS221M10
	C521, C522, C551		CEAS470M25
	C1601		CEAS471M6
	C569, C570		CEHAQ100M50
	C567, C568		CEHAQ101M10
	C561, C562		CEHAQ2R2M50
	C565, C566		CEHAQ4R7M2A
	C507, C508, C544		CEXA471M16
	C531–C534, C556, C557, C575, C576		CFTXA104J50
	C573, C574		CFTXA333J50
	C563, C564		CKCYB102K50
	C505, C506, C543		CKCYB561K50
	C1602		CKCYF103Z50
	C1603		CKCYF473Z50
	C523–C526, C552, C553		CMA101J500
	C509–C512, C545, C546		CMA560J500
	C503, C504, C542		CQSXA221J160

RESISTORS

Mark	No.	Description	Parts No.
	R641, R642	(0.22, 2W)	ACN−131
	R553, R554, R607	(0.33, 5W)	ACN1087
	R511, R512, R586		RD1/4PM101J
	R507, R508, R584		RD1/4PM221J
	R503, R504, R582		RD1/4PM331J
	R509, R510, R585		RD1/4PM472J
	R501, R502, R581		RD1/4PM474J
	R541−R544, R601, R602		RD1/4PMF101J
	R565−R568, R612, R613, R651−R654		RD1/4PMF222J
	R537−R540, R545−R548, R599, R600, R603, R604		RD1/4PMF470J
	R549−R552, R605, R606		RD1/4PMF4R7J
	R643−R646		RD1/4PMFL100J
	R519, R520, R590		RDR1/2PM223J
	R505, R506, R583		RDR1/4PM223J
	R517, R518, R589		RDR1/4PM681J
	R513−R516, R587, R588		RFA1/4PS101J
	R523, R524, R592		RFA1/4PS121J
	R533, R534, R597		RFA1/4PS470J
	R555−R558, R608, R609, R637, R638−R640		RFA1/4PS4R7J
	R559−R562, R610, R611		RS1LMF100J
	R521, R522, R591		RS1PMF223J
	R1611−R1614		RS2LMF102J
	R563, R564		RS2LMF331J
		Other Resistors	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Parts No.
	CN7	8P JUMPER CONNECTOR	KPC8
	CN3	13P JUMPER CONNECTOR	KPE13
		SCREW	ABA−298

HEADPHONE ASSY

OTHERS

Mark	No.	Description	Parts No.
		HEADPHONE JACK	AKN1002

FL U-COM ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC1001		M66311P
	IC1002		PDG100B
	IC1003		M5278L56 (A)
	Q1004, Q1007, Q1008		2SA1048
	Q1012, Q1013		2SB764
	Q1003, Q1005, Q1006		2SC2458
	Q1014		XDA124ES
	Q1001, Q1009, Q1015, Q1016		XDC124ES
	Q1002		XDC143ES
	D1010, D1011		AEL1100
	D1012−D1016		AEL1118
	D1041−D1056		AEL1122
	D1001−D1009, D1017−D1021, D1030−D1040, D1057−D1060		AEL1151
	D1025		RD5.6ESB2
	D1022, D1023		RD8.2ESB1
	D1026, D1027		S5688G

SWITCHES

Mark	No.	Description	Parts No.
	S1001−S1011, S1013−S1040		ASG1029

COIL

Mark	No.	Description	Parts No.
	L1001		LAU220K

CAPACITORS

Mark	No.	Description	Parts No.
	C1007		ACH1135
	C1020		CEAS0R1M50
	C1008, C1009		CEAS100M50
	C1003, C1006		CEAS470M25
	C1012		CEAS471M6
	C1024		CEJA100M16
	C1004		CFTXA393J50
	C1002		CFTXA823J50
	C1015, C1016, C1018, C1019, C1022		CKPUYB102K50
	C1017		CKPUYB471K50
	C1010, C1014		CKPUYF223Z25
	C1001, C1005, C1011, C1013, C1021, C1201−C1203		CKPUYF473Z16
	C1023		CKPUYF103Z25

RESISTORS

Mark	No.	Description	Parts No.
	R1004, R1006, R1007		RA11S104J
	R1057, R1058, R1060, R1061		RD1/2PM391J
		Other Resistors	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Parts No.
	X1002 (8.00MHz)		ASS1015
		1P PIN JACK	AKB1082
	CN1201	4P MINI DIN SOCKET	AKP1067
	CN68	40P L TYPE SOCKET	AKP1087
	V1	FL TUBE	AAV1178
		REMOTE RECEIVER UNIT	AXX1023

FRONT CENTER SP TERMINAL ASSY

OTHERS

Mark	No.	Description	Parts No.
		8P SPEAKER TERMINAL	AKE1036
	CN8913	4P SPEAKER TERMINAL	AKE1049

MOTHER (1) ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC771		NJM78M05FAS
	IC772		NJM79M05FA
	IC773		PQ20RV1E
	Q773		2SC2458
	Q771		2SD438
	Q772		XDC124ES
	D776, D781, D782, D784–D788		HSS104–02
	D779		RD16ESB
	D775, D777, D778		RD7.5ESB
	D771–D774		S5566

CAPACITORS

Mark	No.	Description	Parts No.
	C790		CEANP010M50
	C723		CEAS101M10
	C778, C779		CEAS101M16
	C776, C787		CEAS101M25
	C788		CEAS101M50
	C771		CEAS102M25
	C772		CEAS222M25
	C791		CEAS470M16
	C789		CEASR33M50
	C773, C777, C780, C782		CKCYB103K50
	C722		CQMA473J50

RESISTORS

Mark	No.	Description	Parts No.
	R773		RD1/4PMF4R7J
	R771, R792		RS1PMF391J
	R780, D781		RS1PMF470J
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN58	40P SOCKET	AKP1085
	CN56	27P SOCKET	AKP1099
	CN2	6P JUMPER CONNECTOR	KPC6
	CN21	14P JUMPER CONNECTOR	KPE14
	CN4	15P JUMPER CONNECTOR	KPE15
	CN5	6P JUMPER CONNECTOR	KPE6
		SCREW	ABA–298

POWER SUPPLY ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC701		NJM78M56FAS
	Q702, Q705		XDA124ES
	Q701, Q703, Q704, Q706		XDC143ES
	D703, D712		D3SBA20 (A)
	D701, D702		D5SB20F
	D708, D710, D717, D718		HSS104–02
	D706		RD4.7ESB
	D709		RD5.1ESB
	D716		RD5.6ESB
	D704, D705, D707, D711		S5566

SWITCH & RELAYS

Mark	No.	Description	Parts No.
	S701		ASH1015
	RY702, RY703		ASR1027
	RY701		ASR1036

COIL

Mark	No.	Description	Parts No.
	L701		ATF1006

CAPACITORS

Mark	No.	Description	Parts No.
	C715, C716	(0.01/400)	ACG1002
	C705–C707	(0.01/150)	ACG1005
	C703, C704	(6800/42)	ACH1110
	C702		ACH1162
	C701		ACH1163
	C709		CEAS100M50
	C712		CEAS332M16
	C710		CEAS470M16
	C711		CEAS472M16
	C708		CEHAQ010M50
	C713, C714		CKCYB103K50
	C717		CQMA473K250
	C718		CQMA104K250

RESISTORS

Mark	No.	Description	Parts No.
	R701	(2.2M, 1/2W)	ACN–208
	R705		RD1/4PMF4R7J
	R712		RS1PMF392J
	R704		RS2LMF151J
	R708		RS2LMF561J
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN702	2P MINI JACK	AKN1006
		MINI JACK	AKN1020
⚠		3P AC OUTLET	AKP1053

15 REG ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC753		NJM78M12FAS
	IC751		NJM78M15FAS
	IC752		NJM79M15FA

CAPACITORS

Mark	No.	Description	Parts No.
	C754–C756		CEAS101M25
	C751–C753		CKCYB103K50

5 REG ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC761, IC762		PQ20RV1E
	Q762, Q764		2SA1048
	Q763		2SB950A
	Q761		2SC2458
	D761 – D766		HSS104 – 02

CAPACITORS

Mark	No.	Description	Parts No.
	C762, C767		CEANP010M50
	C764 – C766		CEAS470M25
	C761		CEASR33M50
	C768		CEHAQ331M16
	C763		CKCYB103K50

RESISTORS

Mark	No.	Description	Parts No.
		All Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN18	13P JUMPER CONNECTOR	KPE13

RMR – SP ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	Q1617, Q1618		XDA124ES
	Q1612, Q1613		XDC143ES
	D1606, D1607		HSS104 – 02

RELAYS

Mark	No.	Description	Parts No.
	RY505, RY506		ASR1035

RESISTORS

Mark	No.	Description	Parts No.
	R1615, R1616		RS2LMF102J

OTHERS

Mark	No.	Description	Parts No.
	CN1601	8P SPEAKER TERMINAL	AKE1048

TRANS ASSY

RESISTORS

Mark	No.	Description	Parts No.
	R741, R742		RD1/4PMF4R7J

SUB TRANS ASSY

SUB TRANS assy has no service part.

VR ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC1505		BU4066BL
	IC1501 – IC1503		M5220P
	IC1506		TA8409S
	IC1504		XRA4558 – P
	Q1501 – Q1506		2SC3327
	Q1509		XDA124ES
	Q1507, Q1508		XDA143ES
	Q1510, Q1512 – Q1514		XDC124ES
	Q1511		XDC143ES
	D1503 – D1511		HSS104 – 02
	D1515 – D1517		RD5.1ESB
	D1513, D1514		RD9.1ESB

RELAY

Mark	No.	Description	Parts No.
	RY1501		ASR1040

COILS

Mark	No.	Description	Parts No.
	L1501, L1502		LAU100J

CAPACITORS

Mark	No.	Description	Parts No.
	C1508, C1513, C1514		CCCSL101J50
	C1531		CCCSL151J50
	C1503, C1504		CCCSL221J50
	C1526		CEAS010M50
	C1501, C1502.C1507, C1511, C1512		CEAS100M50
	C1520		CEAS101M16
	C1524, C1525		CEAS220M25
	C1522, C1523		CEAS470M16
	C1505, C1506, C1509, C1510, C1515, C1516		CEAS4R7M50
	C1517, C1518		CEASR47M50
	C1529, C1530		CKCYX104M25
	C1519		CKCYX473M25

RESISTORS

Mark	No.	Description	Parts No.
	VR1501	(50k – A5*5 50k – B6*1)	ACX1056
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN9	11P JUMPER CONNECTOR	KPE11
	CN14	7P JUMPER CONNECTOR	KPE7
	CN10	9P JUMPER CONNECTOR	KPE9

MOTHER (2) ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC774		M5278L56 (A)
	D780, D783		HSS104 – 02

CAPACITORS

Mark	No.	Description	Parts No.
	C785, C786		CEAS101M16
	C781		CEAS331M10
	C719		CEAS4R7M50
	C720, C721		CKCYB102K50
	C783, C784		CKCYB103K50

RESISTORS

Mark	No.	Description	Parts No.
	R782		RD1/4PMF220J
	R783		RFA1/4PS100J
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN66	27P SOCKET	AKP1099

GRAPHICS ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC1353		CXA1621S
	IC1351		MC14053BF
	IC1365		MC74AC541M
	IC1363		MC74HC00AF
	IC1364		MC74HC04AF
	IC1369		MC74HC133F
	IC1366, IC1368		MC74HC573AF
	IC1367		MC74HC74AF
	IC1356–IC1359		MS51464–12Z
	IC1362		PDR005A
	IC1361		SC78213GC
	IC1352		V7010
	IC1354		V7040
	IC1355		V9938C
	Q1351, Q1352, Q1359, Q1368		2SA1048
	Q1360, Q1363, Q1369		2SC2458
	Q1354, Q1358, Q1361		2SC2668
	Q1353		2SC2712
	Q1367		2SC2901
	Q1362		XDC124ES
	D1353		ITT310
	DL1351, DL1352		ATN1007

COILS & TRANSFORMERS

Mark	No.	Description	Parts No.
	F1352, F1353		ATF1102
	L1357		ATG1005
	L1354, L1355, L1358, L1366, L1368		ATX1008
	L1360, L1361, L1363–L1365, L1367		LCTA100J3225
	L1362, L1370		LCTA220J3225
	L1359		LCTA221J3225
	L1369		LCTA470J3225
	L1356		LCTA4R7J3225

CAPACITORS

Mark	No.	Description	Parts No.
	C1424		CCSQCH080D50
	C1437, C1438		CCSQCH150J50
	C1415		CCSQCH180J50
	C1369, C1370, C1410		CCSQCH220J50
	C1425		CCSQCH221J50
	C1355		CCSQCH330J50
	C1356		CCSQCH390J50
	C1417		CCSQCH560J50
	C1362		CCSQCH820J50
	C1400		CEANP010M50
	C1404, C1405, C1409, C1414, C1418, C1420		CEANP0R1M50
	C1351		CEANPR22M50
	C1393		CEANPR47M50
	C1354		CEAS010M50
	C1380, C1388		CEAS100M50
	C1399		CEAS0R1M50
	C1374, C1375, C1377, C1412, C1421, C1446		CEAS101M10
	C1379, C1426		CEAS102M6
	C1357, C1385		CEAS220M50
	C1381, C1386, C1408		CEAS221M10
	C1353		CEAS330M16
	C1429, C1441		CEAS331M6
	C1445		CEAS470M16
	C1371		CEAS470M25
	C1392		CEASR47M50
	C1352, C1367		CKSQYB102K50
	C1372, C1373, C1398, C1407, C1428		CKSQYF103Z50
	C1358–C1361, C1364–C1366, C1384, C1397, C1402, C1403, C1406, C1413, C1422, C1427, C1430–C1436, C1439, C1440, C1442–C1444, C1447–C1449		CKSQYF473Z50
	C1396, C1411, C1423		CQMA103J50
	C1363, C1376, C1378, C1394, C1401, C1416, C1419		CQMA104J50
	C1389		CQMA223J50
	C1383, C1387, C1391		CQMA473J50

RESISTORS

Mark	No.	Description	Parts No.
	VR1353, VR1354		VRTS6VS102
	VR1356, VR1358		VRTS6VS103
	VR1357		VRTS6VS471
	VR1355		VRTS6VS472
	R1384		RA8T104J
	R1420		RN1/4PC2702F
		Other Resistors	RS1/10S□□□J

OTHERS

Mark	No.	Description	Parts No.
	X1351	(3.579545MHz)	ASS–028
	X1352	(11.2896MHz)	ASS1026
	CN17	11P JUMPER CONNECTOR	KPE11

DSP ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC802		CS5339
	IC809		LC78835M
	IC804		LH5P8128N8TL
	IC801, IC810		M5238PF
	IC808		PCM1700U-J
	IC807		PD00601
	IC803		PD0083A
	IC806		PD2029A
	IC805		PDG103A
	IC813-IC815		TC4052BP
	IC811, IC812, IC816-IC818		XRA4558-P
	Q803		2SA1048
	Q801, Q802		2SC3327
	D801, D802		1SS226
	D803		1SS352

COILS

Mark	No.	Description	Parts No.
	F802		ATF1102
	F801		ATF1110
	L801-L817		ATX1008

CAPACITORS

Mark	No.	Description	Parts No.
	C878, C879, C907, C908		CCSQCH100D50
	C886, C887, C933, C970, C971		CCSQCH121J50
	C827		CCSQCH220J50
	C801, C802, C911, C912		CCSQCH101J50
	C841, C888-C891		CCSQCH560J50
	C892, C893		CEANP100M35
	C926-C929		CEAS010M50
	C803, C804, C898-C901, C937, C938, C941, C942, C963, C964, C974, C975, C978-C981		CEAS100M50
	C824		CEAS221M10
	C818, C820		CEAS331M6
	C842, C846, C848, C894, C895		CEAS470M25
	C881, C882, C884, C885		CEAS471M10
	C925, C930		CEAS4R7M50
	C816		CEAS6R8M50
	C825, C844, C850, C854		CKSQYB102K50
	C936		CKSQYB183K50
	C935, C972, C973		CKSQYB222K50
	C811-C814		CKSQYB332K50
	C932		CKSQYB392K50
	C807, C808		CKSQYB561K50
	C934		CKSQYB562K50
	C931, C968, C969		CKSQYB821K50
	C815, C871, C873-C875, C880, C883, C960, C961, C966		CKSQYF104Z50
	C805, C806, C817, C819, C821-C823, C826, C828-C831, C840, C843, C845, C847, C849, C851-C853, C869, C870, C876, C904-C906, C909, C910, C920, C921, C923, C924, C944, C945, C959, C965, C984, C985		CKSQYF473Z50
	C809, C810		CQMA153J50
	C940		CQMA223J50
	C896, C897, C939, C976, C977		CQMA104J50
	C943, C982, C983		CQMA332J50
	C902, C903		CQMA562J50

RESISTORS

Mark	No.	Description	Parts No.
		All Resistors	RS1/10S□□□J

OTHERS

Mark	No.	Description	Parts No.
	X801	(8.00MHz)	ASS1015
	X802		ASS1073

6.3 PART NUMBER DIFFERENCES BETWEEN VSX–97/KU/CA, VSX–D2S/KC, SD AND KU

AUDIO FUNCTION Assy

AWZ5246 and AWZ5019 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5019	AWZ5246	
	4P Pin jack	AKB1101	AKB1153	(CN51, CN52)
	6P Pin jack	AKB1138	AKB1177	(CN53)

A/V FUNCTION Assy

AWZ5247 and AWZ5020 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5020	AWZ5247	
	CN171, CN172 6P Pin jack	AKB1129	AKB1154	

S. VIDEO FUNCTION Assy

AWZ5248 and AWZ5022 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5022	AWZ5248	
	CN201 1P Pin jack	AKB1145	AKB1152	

FL U-COM Assy

AWZ5103 and AWZ5027 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5027	AWZ5103	
	D1024	....	HSS104–02	

FRONT CENTER SP TERMINAL Assy

AWZ5104 and AWZ5032 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5032	AWZ5104	
	8P Speaker terminal	AKE1036	AKE1011	

MOTHER (1) Assy

AWZ5244 and AWZ5028 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5028	AWZ5244	
	R794	....	RD1/8PM223J	
	R795	RD1/8PM223J	....	

POWER SUPPLY Assy

AWZ5245 and AWZ5029 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ5029	AWZ5245	
	C701 (10000/80)	ACH1163	ACH1242	
	C702 (10000/80)	ACH1162	ACH1241	
	C703 (6800/42)	ACH1110	ACH1244	
	C704 (6800/42)	ACH1110	ACH1243	

6.4 FOR VSX−97/KU/CA ONLY

VIDEO FUNCTION ASSY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC302, IC303		CXA1558L
	IC1902		M50554−003SP
	IC305, IC306		MC14577BP
	IC301		NJM2233BS
	IC304		NJM2246L
	IC1901		UPC1377C
	Q302, Q1909		2SA1048
	Q1905, Q1906		2SC2412K
	Q331, Q332, Q1901		2SC2458
	Q1903		DTC124EK
	Q1904		XDA124EK
	Q1902		XDA124ES
	Q301		XDA143ES
	Q1911		XDC124ES
	D1901, D1903, D1904		1SS352
	D1902, D1910, D1911		HSS104−02
	D340		RD5.1ESB
	DL331		ATN1012
COILS			
	F330		ATF1084
	L1902		LAU150K
	L1903, L1904		LAU270K
	L1901		LAU390K
CAPACITORS			
	TC1901		ACM−020
	C1928		CCSQCH101J50
	C1927		CCSQCH102J50
	C1929, C1930		CCSQCH150J50
	C1920, C1931, C1934		CCSQCH220J50
	C1926		CCSQCH330J50
	C1901		CCSQCH560J50
	C1904		CCSQCH561J50
	C1923		CCSQSH101J50
	C316		CEANP470M10
	C1903, C1905, C1908		CEAS010M50
	C1902, C1935		CEAS100M50
	C312−C315, C320, C321, C343		CEAS101M10
	C1918, C1924		CEAS101M16
	C323		CEAS102M6
	C311, C317		CEAS221M10
	C1912, C1917		CEAS2R2M50
	C1922		CEAS330M16
	C301−C305, C307−C310, C318, C319, C322, C340−C342		CEAS470M16
	C1919		CFTXA104J50
	C1909		CFTXA105J50
	C1906, C1907, C1910		CFTXA333J50
	C1914		CFTXA823J50
	C1913		CKSQYB152K50
	C1915		CKSQYB472K50
	C1921−C1933		CKSQYF103Z50
	C344		CKSQYF104Z50
	C1911		CKSQYF473Z50
	C1916		CQPA562J100
RESISTORS			
	VR1901		VRTS6HS103
	VR1902		VRTS6HS472
	R323, R324, R1917		RD1/4PMF100J
	R325, R326		RD1/4PMF470J
	R1920		RN1/4PC1202F
	R350		RS1PMF101J
	Other Resistors		RS1/10S☐☐☐J
OTHERS			
	CN303	3P PIN JACK (VCR2, MULTI-ROOM)	AKB1170
	CN302	2P PIN JACK (VCR1)	AKB1173
	CN301	2P PIN JACK (LD, TV)	AKB1192
	X1901		ASS1056
		FILTER MODULE	AXX1040

7. ADJUSTMENTS

7.1 TUNER SECTION

1. Wiring …… Connect the wires as shown in Fig. 7−1−1 (FM ANT. terminal : 75Ω).
2. Preset …… Set the VR451 to center position.
3. When the SD model is used, set the band select switch to AM : 10kHz/FM : 100kHz.

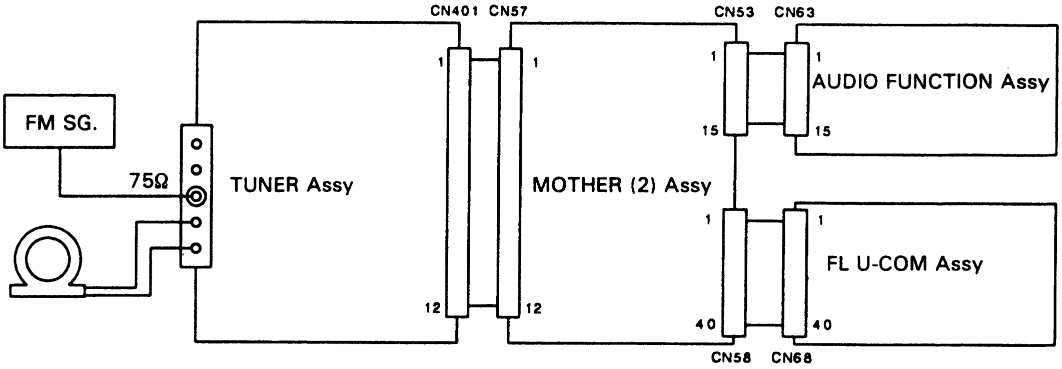


Fig. 7−1−1 AM and FM adjustment wiring diagram

FM Section

Note : Stereo modulation ; Main 1kHz L+R ±68.25kHz
Pilot 19kHz±6.75kHz

Order	Item	SSG			Receiving Frequency	Adjustment	
		Frequency	Modulation	Level		Adjustment Location	Remarks
1	Checking front end VT	No Signal			108MHz	—	Check that the voltage between terminal 41 and GND is 8.7±2.0V.
2	Checking front end VT				87.5MHz	—	Check that the voltage between terminal 41 and GND is 3.4±1.5V.
3	Increasing front end sensitivity	98MHz		Weak Input	98MHz	L402, L404, T402	Set the voltage between terminal 43 and GND to maximum, and check that the practical sensitivity is as specified.
4	Center adjustment	98MHz		60dBμV	98MHz	L431	Adjust the voltage between terminals 45 and 46 to 0±50mV.
5	Checking monophonic distortion	98MHz	1kHz ±75kHz dev.	60dBμV	98MHz	—	Check that the monophonic distortion is as specified.
6	Adjusting VCO		OFF	60dBμV		VR451	Adjust the output of terminal 44 to 76.0kHz±1.0kHz.
7	Adjusting stereo distortion	98MHz	L-ONLY R-ONLY	60dBμV	98MHz	T402	Minimize the distortion within 1/4 rotation of the core, and check conformity to the specification.
8	Checking separation	98MHz	L-ONLY R-ONLY	60dBμV	98MHz	—	Check that the seperation of L → R and R → L is as specified.
9	Checking lighting levels of TUNED and STEREO IND.	98MHz	STEREO		98MHz	—	Check that the lighting levels of TUNED and STEREO IND. are as specified.

AM Section

Order	Item	SSG			Receiving Frequency	Adjustment	
		Frequency	Modulation	Level		Adjustment Location	Remarks
1	Checking front end VT	No signal			1700kHz	—	Check that the voltage between terminal 41 and GND is 7.5±1.0V.
2	Checking front end VT				530kHz	—	Check that the voltage between terminal 41 and GND is 1.5±0.5V.
3	Checking front end sensitivity	1000kHz	400kHz 30% MOD.	Practical sensitivity level	1000kHz	—	Check that the practical sensitivity (maximum sensitivity) is as specified.
4	Adjusting lighting level of TUNED IND.	1000kHz			1000kHz	VR431	Adjust the lighting level of TUNED IND. to 55dBμV/m±3dB.

TUNER Assy

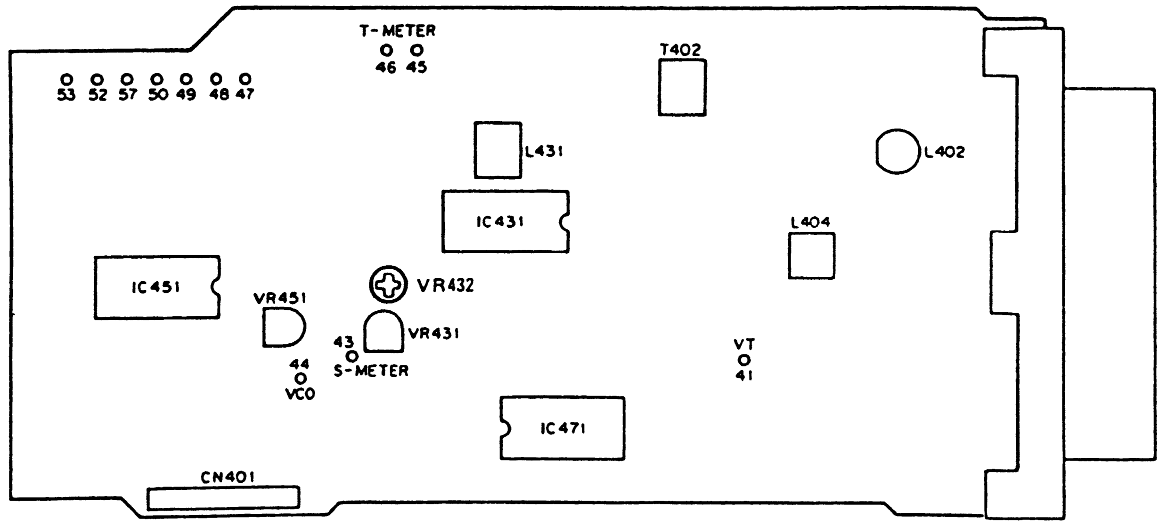
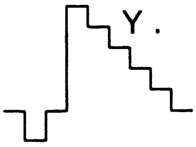
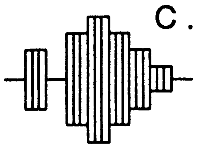

T-METER
46 45
53 52 57 50 49 48 47
T402
L431
L402
IC431
L404
IC451
VR451
VR432
VR431
43
S-METER
44
VCO
VT
41
IC471
CN401

Fig. 7-1-2 Adjustment Points

7.2 VIDEO SECTION (GRAPHICS ASSY)

1. Remove the bonnet case and then the shield case. (Refer to "2. DISASSEMBLY".)
2. Remove the flat cable from connector (J17) of the GRAPHICS ASSY.
3. Connect the color bar generator to pins 1 and 3 on connector J17. (Refer to Fig. 7−2−1.)
   - Set the input signal level at the following color bar signals:
     Y signal (luminance signal) : 1 Vp−p ±0.05 V
     C signal (Chrominance signal) : Color burst signal 286 mV ±10 mV





4. Turn the power switch to ON.

Order	Item	Input Signal	Adjustment Location	Measurement Location	Description
1	Chroma input level	100% color bar *1	VR1354 (1kΩ)	IC1353 (CXA1621S) Pin 24	Adjust so that chroma burst is 0.143 Vp−p ±0.01 V (with oscilloscope). (Refer to Fig. 7−2−2.)
2	BF (Burst flag) position		VR1356 (10kΩ)	IC1353 (CXA1621S) Pins 2 and 3	Adjust so that from trailing edge of pin 2 (SYNC OUT) to trailing edge of pin 3 (BF OUT) is 5.6 μSec. ±0.2 μSec. (with oscilloscope). (Refer to Fig. 7−2−3.)
3	Luminance level		VR1353 (2.2kΩ)	IC1353 (CXA1621S) Pins 2 and 18	Synchronize measuring device with pin 2 (SYNC OUT), and using pin 18 (RGB Blue) output terminal waveform, adjust so that White 100% portion is 1Vp−p ±0.05 V (with oscilloscope). (Refer to Fig. 7−2−4.) *1
4	SC frequency	No input	VR1357 (470Ω)	Q1354 emitter	Connect a 1kΩ resistance in series to the probe of a frequency counter and take measurements; adjust so that oscillating frequency is 3.579545 MMz ±20 Hz.
5	IC1355 (V9938C) clock		L1357	IC1352 (V7010) Pin 13	Connect a 22kΩ resistance in series to IC1352 pin 13 (PD OUT) and take measurements; adjust so that DC level is 2.5 V ± 0.2 V (with oscilloscope).
				IC1355 (V9938C) Pin 64	When adjustment has been completed, confirm that frequency is 21.477 MHz ±0.001 MHz using a frequency counter (series resistance 2.2kΩ). [IC1355 (V9938C), pin 64]
6	HEU	100% color bar *1	VR1358 (10kΩ)	IC1353 (CXA1621S) Pin 18	Adjust so that all color components output at pin 18 have the same amplitude (with oscilloscope). (Refer to Fig. 7−2−5.)
7	Chroma level		VR1355 (4.7kΩ)		Adjust so that above adjusted amplitude is 0.75 Vp−p ±0.05 V (with oscilloscope).
8	Readjustment	——	——		If adjustment cannot be completely performed in Order 7, repeat Orders 6 and 7. (Refer to Fig. 7−2−6.)

*Note *1:*
If a 100% color bar cannot be prepared, a 75% color bar can be used.
In this case, however, the adjustment value in Order 3 becomes 0.75 Vp−p.

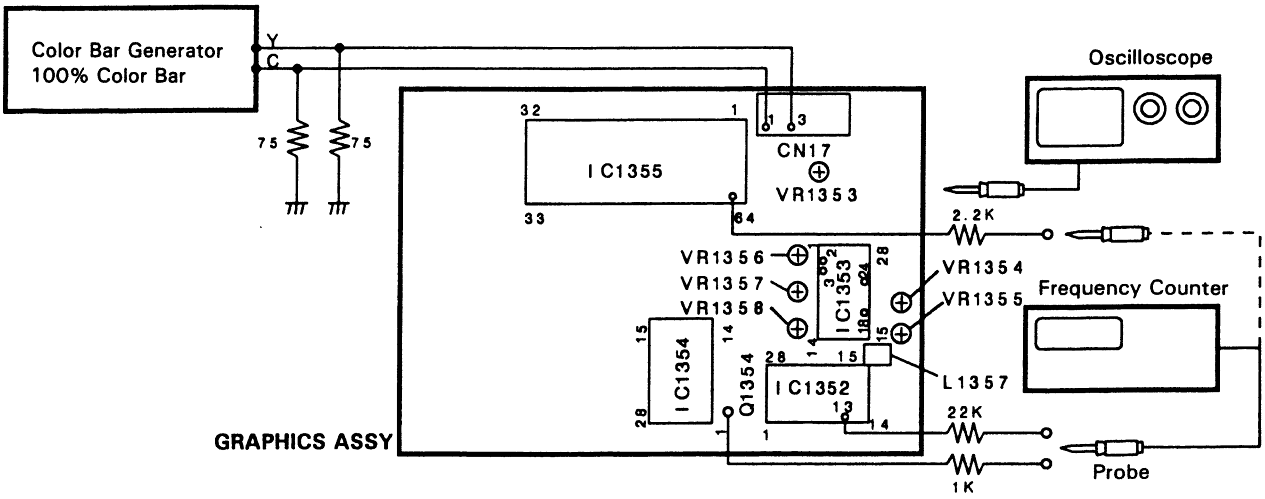

Color Bar Generator
100% Color Bar
Y
C
75
75
Oscilloscope
32
1
1
3
IC1355
CN17
VR1353
33
64
2.2K
VR1356
VR1357
VR1358
2
3
IC1353
24
28
18
14
15
VR1354
VR1355
Frequency Counter
15
IC1354
28
14
28
15
Q1354
IC1352
13
14
1
1
L1357
22K
GRAPHICS ASSY
1K
Probe

Fig. 7-2-1

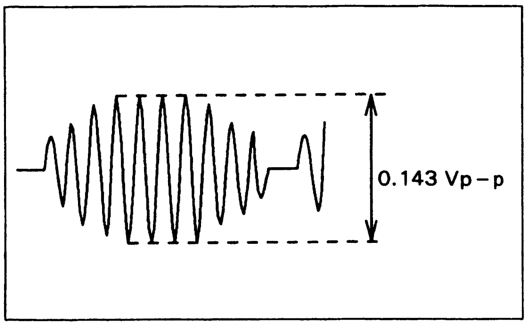


Fig. 7-2-2

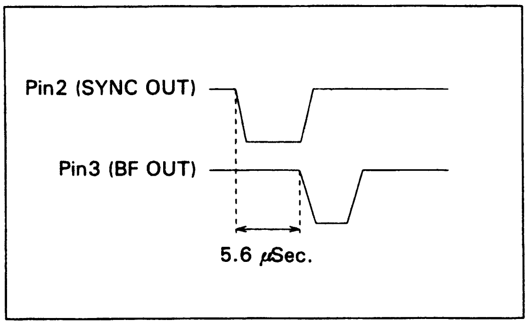


Fig. 7-2-3

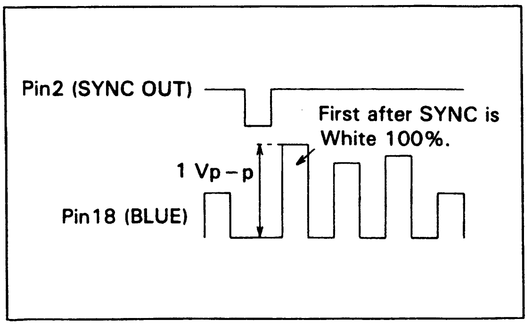


Fig. 7-2-4

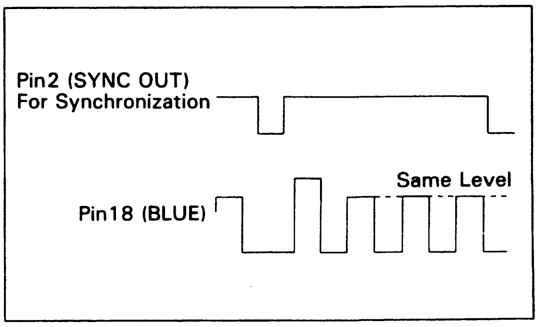


Fig. 7-2-5

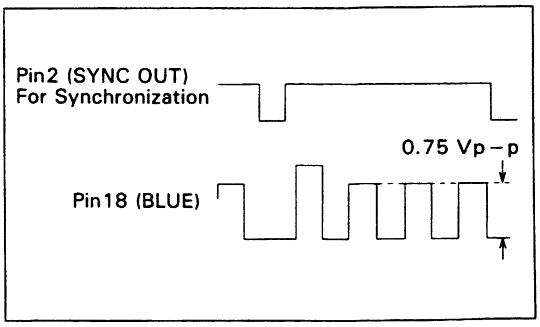


Fig. 7-2-6

● H. SYNC and V. SYNC Adjustments (VSX−97 Only)

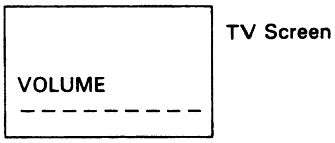
Remove the VIDEO FUNCTION assy by following the instruction in "2. DISASSEMBLY".

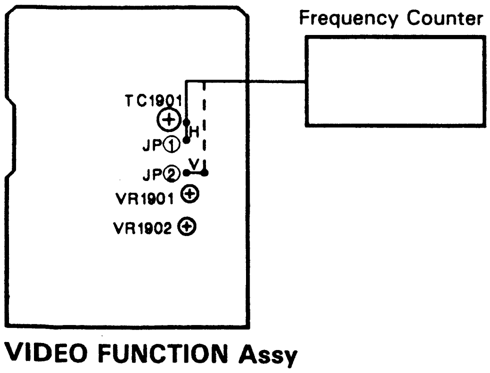
Measuring Instrument: Frequency Counter

Order	Item	Input Signal	Input Level	Adjustment Location	Measurement Location	Description
1	H. Sync	—	—	VR1902	JP ①	Adjust so that the frequency counter reads 15.75 kHz ±50 Hz.
2	V. Sync	—	—	VR1901	JP ②	Adjust so that the frequency counter reads 53 Hz ±1 Hz.

● Superimpose Horizontal Position Adjustment (VSX−97 Only)

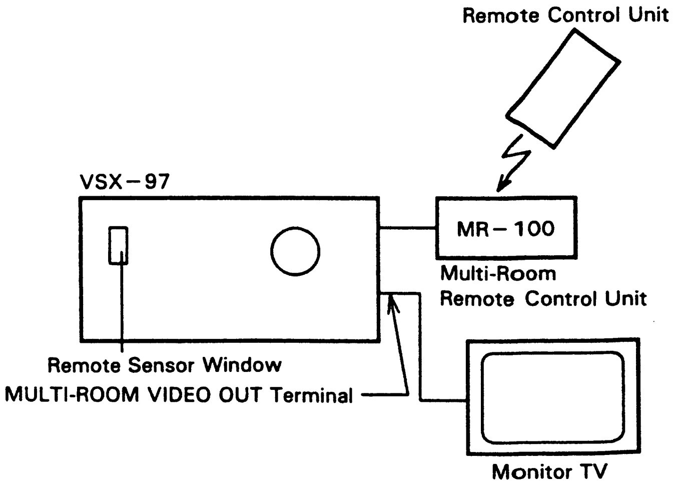
- As shown in Fig. 7−2−8, connect the MR−100 to VSX−97, then operate the remote control unit by pointing it to the MR−100
- Cover the remote sensor window of the VSX−97 so that it does not accept signals from the remote control unit.
- Turn the SPEAKERS switch to OFF.

Order	Item	Input Signal	Input Level	Adjustment Location	Measurement Location	Description
1	Superimpose Horizontal Position	—	—	TC1901	Monitor TV connected to the MULTI-ROOM VIDEO OUT jack	● Display the maximum volume level ● "– – – – – –" is positioned in the center of the screen  VOLUME - - - - - - - - - TV Screen



Frequency Counter
TC1901
H
V
JP①
JP②
VR1901
VR1902
VIDEO FUNCTION Assy

Fig. 7−2−7 Adjustment Points



Remote Control Unit
VSX−97
MR−100
Multi-Room Remote Control Unit
Remote Sensor Window
MULTI-ROOM VIDEO OUT Terminal
Monitor TV

Fig. 7−2−8

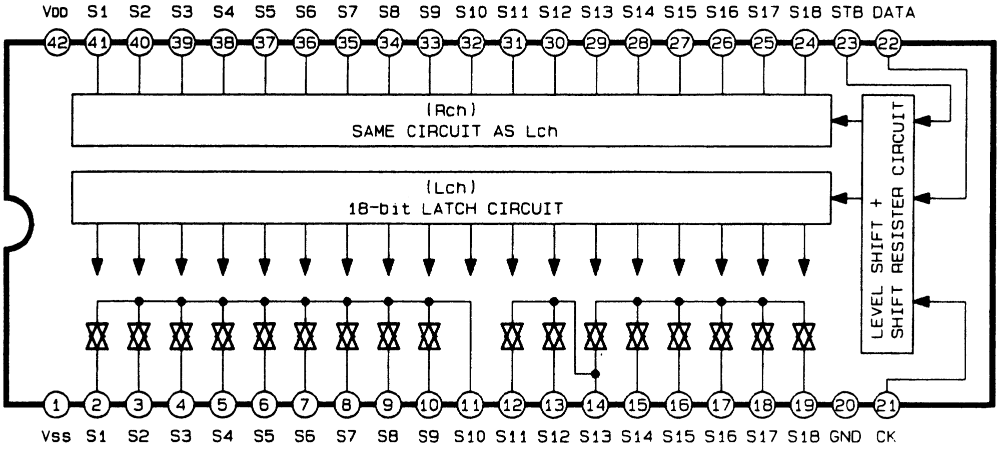
8. IC INFORMATION

- *The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.*

■ TC9274N−005 (IC53 : AUDIO FUNCTION ASSY)

● Analog Switch, CMOS IC

● Block Diagram


VDD S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 STB DATA
42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22
(Rch)
SAME CIRCUIT AS Lch
(Lch)
18-bit LATCH CIRCUIT
LEVEL SHIFT +
SHIFT RESISTER CIRCUIT
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
Vss S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 GND CK

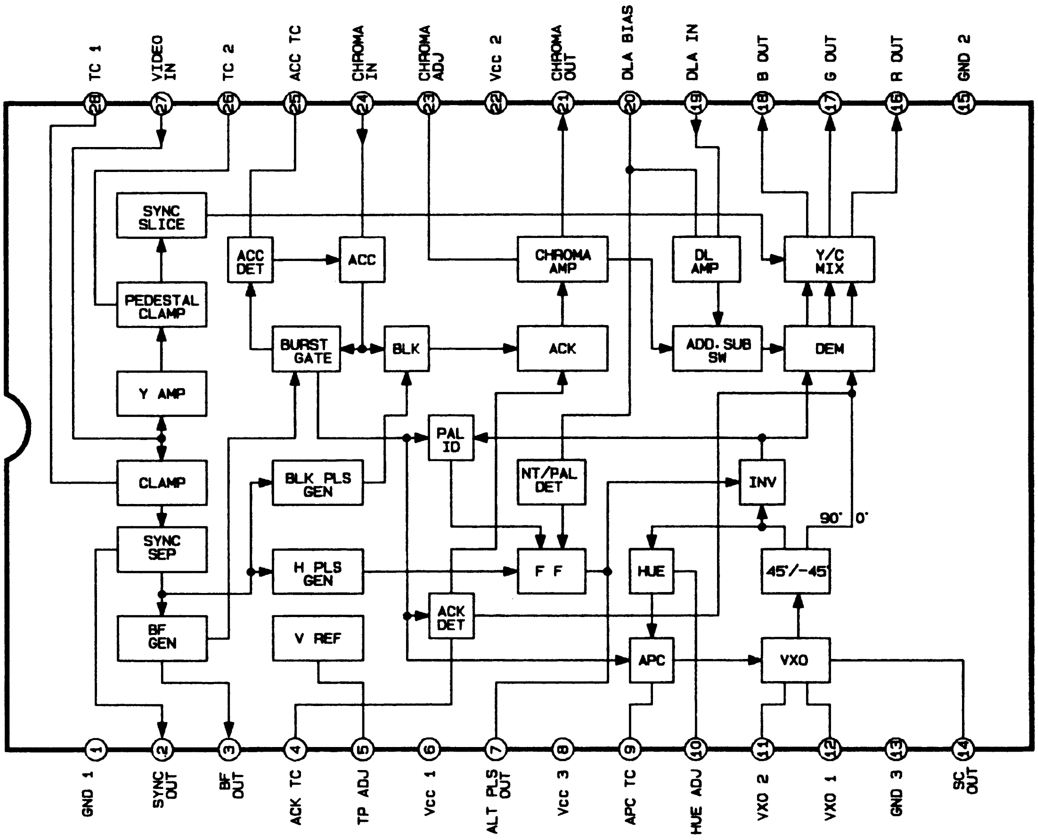
● Pin Function

No.	Symbol	Name	Description
1	Vss	Negative power terminal	Power consumption VDD = 8.0 to 17V GND = 0 V Vss = −8.0 to −17V Power consumption VDD = 8.0 to 18V Vss = GND = 0V
20	GND	Digital ground	
42	VDD	Positive power terminal	
2/41	S1	Input/Output terminal	Analog switch input terminal
3/40	S2		
4/39	S3		
5/38	S4		
6/37	S5		
7/36	S6		
8/35	S7		
9/34	S8		
10/33	S9		
11/32	S10		
12/31	S11	Input/Output terminal	Analog switch input terminal
13/30	S12		
14/29	S13		
15/28	S14		
16/27	S15		
17/26	S16		
18/25	S17		
19/24	S18		
21	CK	Clock input terminal	Clock input for data transmission use.
22	DATA	Data input terminal	Serial data input for switch setting use.
23	STB	Strobe input terminal	Strobe input for data writing use.

CXA1621S (IC1353 : GRAPHICS ASSY)

NTSC/PAL Decoder IC

- Block Diagram


TC 1
VIDEO IN
TC 2
ACC TC
CHROMA IN
CHROMA ADJ
Vcc 2
CHROMA OUT
DLA BIAS
DLA IN
B OUT
G OUT
R OUT
GND 2
28
27
26
25
24
23
22
21
20
19
18
17
16
15
SYNC SLICE
ACC DET
ACC
CHROMA AMP
DL AMP
Y/C MIX
PEDESTAL CLAMP
BURST GATE
BLK
ACK
ADD. SUB SW
DEM
Y AMP
PAL ID
CLAMP
BLK PLS GEN
NT/PAL DET
INV
90°
0°
SYNC SEP
H PLS GEN
F F
HUE
45°/-45°
ACK DET
BF GEN
V REF
APC
VXO
1
2
3
4
5
6
7
8
9
10
11
12
13
14
GND 1
SYNC OUT
BF OUT
ACK TC
TP ADJ
Vcc 1
ALT PLS OUT
Vcc 3
APC TC
HUE ADJ
VXO 2
VXO 1
GND 3
SC OUT

- Pin Function

No.	Symbol	Description
1	GND1	Y AMP/SYNC SEP Section Ground Terminal
2	SYNC OUT	Composite SYNC Output Terminal (TTL level)
3	BF OUT	Burst Flag Output Terminal (TTL level)
4	ACK TC	ACK (Automatic Color Killer) Time Constant Terminal
5	TP ADG	Burst Flag Position Adjustment Terminal
6	Vcc 1	Y AMP/SYNC SEP Section Power Terminal
7	ALT PLS OUT	Line Alternator Pulse Output Terminal In NTSC mode: L In PAL mode: H and L reciprocate for each 1H.
8	Vcc 3	APC/HUE/VXO Section Power Terminal
9	APC TC	APC (Color Synchronization) time constant and fo adjustment terminal. VXO free-run frequency can be adjusted by varying DC voltage applied to this terminal.

No.	Symbol	Description
10	HUE ADJ	HUE (hue) Adjustment Terminal. HUE can be adjusted at least ±25° by applying a voltage of 0 to 5V to this terminal.
11	VXO 2	Crystal Oscillator Terminal
12	VXO 1	
13	GND 3	APC/HUE/VXO Section GND Terminal
14	SC OUT	Subcarrier Output Terminal
15	GND 2	Demodulater and Y/C Mixer Section GND Terminal
16	R OUT	R Output Terminal
17	G OUT	G Output Terminal
18	B OUT	B Output Terminal
19	DLA IN	DL Amp Input Terminal

No.	Symbol	Description
20	DLA BIAS	NTSC/PAL Mode Changeover and DL Amp Gain Adjustment Terminal NTSC/PAL mode changeover and DL amp gain adjustment can be performed according to voltage applied to this terminal. NTSC mode: Vin ≦ 0.8V PAL mode: 2.0V ≦ Vin ≦ 2.8V
21	CROMA OUT	Chroma Output Terminal Connected to Vcc 2 during NTSC mode and to 1HDL input terminal during PAL mode.
22	Vcc 2	Demodulater and Y/C Mixer Section Power Terminal
23	CROMA ADJ	Chroma Amp Gain Adjustment Terminal Chroma amp gain adjustment terminal can be adjusted according to voltage applied to this terminal. Black/white mode: Vin ≦ 0.8V Color mode: 2.0V ≦ Vin ≦ 32V.
24	CROMA IN	Chroma Signal Input Terminal
25	ACC TC	ACC (Automatic Color Adjustment) Time Constant Terminal
26	TC 2	Pedestal Clamp Time Constant Terminal
27	VIDEO IN	Video Signal (Luminance + Synchronized Signal) Input Terminal
28	TC 1	Clamp Time Constant Terminal for SYNC/SEP

● Operation of CXA1621S Blocks

1. Synchronous Separation System

The video signal from terminal 27 is synchronously separated while the sync chip is clamped. The SYNC pulses created at this time are originally BF/H/BLK pulses and are fed to each circuit. Of these, the SYNC and BF pulses are converted to TTL level, passing through the buffer, and are output from terminals 2 and 3.

2. Luminance Signal Regeneration System

The video signal from terminal 27 is amplified by the Y AMP while the pedestal is clamped. The synchronous signal portion is removed in the slice circuit and added to the Y/C mix circuit, where it is mixed with color-difference signals and then output from terminals 16, 17, and 18 as RGB primary colors.

3. ACC System (Automatic color adjustment)

The chroma signal input from terminal 24 is controlled so that the burst level remains constant while feedback is applied to the ACC AMP corresponding to the detection output of the burst signal detected at ACC DET.

4. APC system (Color synchronization)

The signal whose level was made constant by the ACC AMP is converted to a burst signal in the BURST GATE circuit and enters the APC circuit as a burst signal only. On the other hand, the VXO output makes a 0° and 90° carrier, and the 90° carrier enters the APC circuit via the HUE circuit. Here phase comparison is performed with input burst, and feedback is applied to the VXO so that the phase difference becomes 90°. The 0° and 90° carrier formed in this way is then supplied to B−Y and R−Y DEM. Accordingly, the demodulation shaft can be changed by rotating the 90° carrier in the HUE circuit.

5. Color Signal Reproduction System

1) NTSC mode

The chroma signal amplified in the ACC AMP is amplified in the CHROMA AMP and demodulated in B−Y DEM and R−Y DEM. It is then added to the Y/C MIX circuit together with G−Y formed in the resistance matrix. Here it is mixed with a luminance signal and output from terminals 16, 17, and 18 as R/G/B primary colors.

2) PAL mode

As far as the CHROMA AMP this mode is the same as the NTSC mode. The chroma signal output from terminal 21 enters the DL AMP through terminal 19 via 1H DL and DAT. Its level is controlled and it is then sent to the ADD/SUB circuit. Here it is added to and subtracted from raw signals, and the add signal is added to B−Y DEM and the subtract signal is added to R−Y DEM. The signal is then demodulated at 90° carrier inverted for each 0° and 1H. From here on the process is the same as that of the NTSC mode: the signal is mixed with a luminance signal and output as R/G/B primary colors.

6. PAL ID

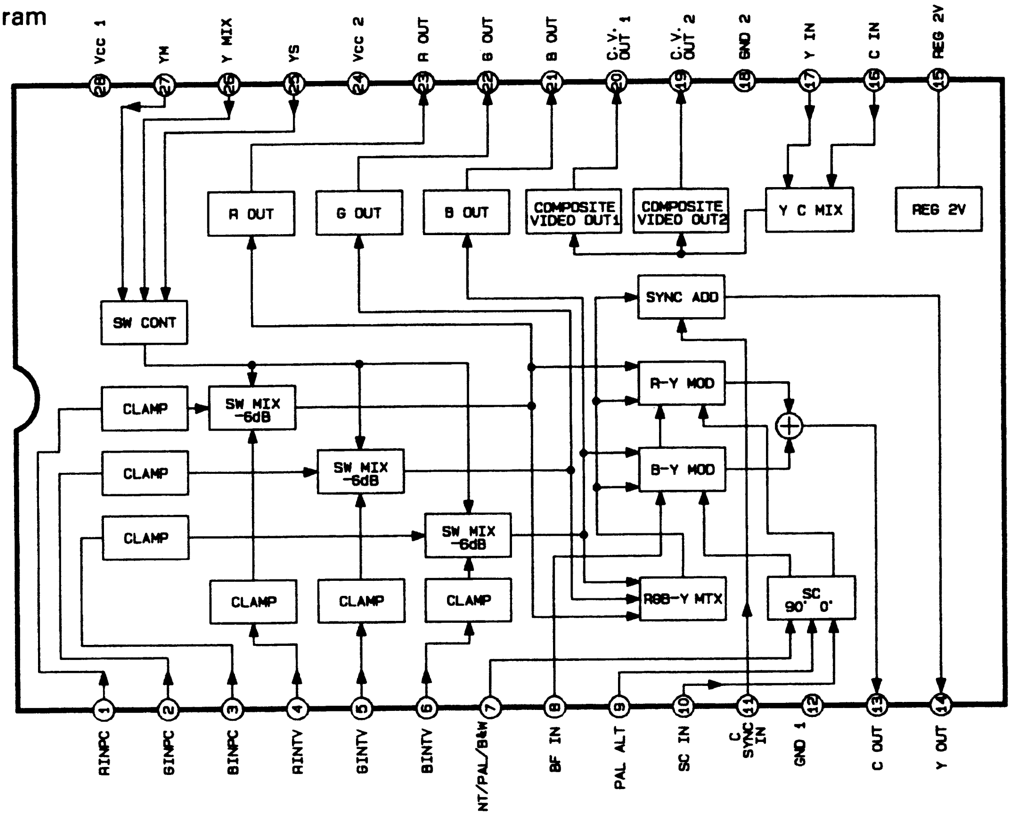
In the PAL system the R−Y component is inverted for each 1H and brought into the system. For this reason it is necessary to invert the demodulation shaft for each 1H as well to match the R−Y component. In this IC the signal is synchronized and 90° carrier is inverted. It is then checked against the input burst by synchronous detection, and if there is an error, it is corrected by applying feedback to the FF (flip flop).

V7040 (IC1354 : GRAPHICS ASSY)

NTSC/PAL Encoder IC

The V7040 is an IC where signals are superimposed with analog RGB signals. It has a built-in encoder that is compatible with both NTSC and PAL modes.

- Block Diagram



Vcc 1
YM
Y MIX
YS
Vcc 2
R OUT
G OUT
B OUT
C.V. OUT 1
C.V. OUT 2
GND 2
Y IN
C IN
REG 2V
28
27
26
25
24
23
22
21
20
19
18
17
16
15
R OUT
G OUT
B OUT
COMPOSITE VIDEO OUT1
COMPOSITE VIDEO OUT2
Y C MIX
REG 2V
SYNC ADD
SW CONT
R-Y MOD
B-Y MOD
CLAMP
SW MIX -6dB
CLAMP
SW MIX -6dB
CLAMP
SW MIX -6dB
CLAMP
CLAMP
CLAMP
RGB-Y MTX
SC 90° 0°
1
2
3
4
5
6
7
8
9
10
11
12
13
14
RINPC
GINPC
BINPC
RINTV
GINTV
BINTV
NT/PAL/B&W
BF IN
PAL ALT
SC IN
C SYNC IN
GND 1
C OUT
Y OUT

- Pin Function

No.	Symbol	Description
1	RINPC	Terminal that inputs RGB color signals from PC and TV.
2	GINPC	
3	BINPC	
4	RINTV	
5	GINTV	
6	BINTV	
7	NT/PAL /B&W	NTSC/PAL/B&W mode changeover input terminal Vin: Terminal 7 applied voltage NTSC mode: 4.0 ≦ Vin PAL mode: 2.0V ≦ Vin ≦ 3.0V B&W mode: Vin ≦ 0.8V
8	BF IN	Burst flag signal input terminal. Clamping is also performed with this burst flag signal. When L (≦ 0.8V): burst H (≧ 2.0V)

No.	Symbol	Description
9	PAL ALT	Terminal that inputs alternate pulses for changing phase of chroma signal and burst for each 1H produced in PAL mode. When L (≦ 0.8V): burst is 225° When H (≧ 2.0V): burst is 135°
10	SC IN	Subcarrier input terminal
11	C SYNC IN	Composite sync signal input terminal When L (≦ 0.8V): SYNC H (≧ 2.0V)
12	GND 1	GND terminal for all circuits except RGB OUT circuit and C.V. OUT circuit
13	C OUT	Chroma signal output terminal
14	Y OUT	Y signal output terminal
15	REG 2V	Internal reference voltage terminal
16	C IN	Terminal that outputs chroma signals at BPF, excluding high-frequency waves

No.	Symbol	Description
17	Y IN	Terminal that inputs Y signal delayed in the delay line
18	GND 2	RGB OUT circuit and C.V. OUT circuit GND terminal
19	C.V. OUT2	Composite video signal output terminal
20	C.V. OUT1	
21	B OUT	R/G/B signal output terminal
22	G OUT	
23	R OUT	
24	Vcc 2	RGB OUT circuit and C.V. OUT circuit power terminal
25	YS	Changeover terminal for TV, PC, MIX, and halftone modes. Input at TTL level
26	Y MIX	
27	YM	
28	Vcc 1	Power terminal for all circuits except RGB OUT circuit and C.V. OUT circuit

● Switch Modes

YS (Pin25)	YMIX (Pin26)	YM (Pin27)	Switch Mode
L	L	L	TV
L	L	H	Halftone
L	H	L	TV
L	H	H	Halftone
H	L	L	PC
H	L	H	PC
H	H	L	MIX
H	H	H	MIX

L ≦ 0.8V H ≧ 2.0V

● Operation of V7040 Blocks

1. Clamp circuit, SW circuit, SW CONT circuit

The RGB signal from the PC is input into terminals 1 to 3 via the clamp capacitor. Similarly, the RGB signal from the TV is input into terminals 4 to 6. The input RGB signal is pedestal-clamped together in the clamp circuit, which operates according to burst flag signals. The clamped RGB signal can be changed over by means of the SW circuit, which operates according to the 4 modes designated by the YS, YMIX, and YM signals input from terminals 25 to 27. The RGB signal changed over by the SW circuit is sent to the MTX, MOD, and RGB OUT circuits.

2. MTX circuit, MOD circuit, SC phase-shifting circuit

The MTX circuit makes a Y signal from the RGB signal changed over by the SW circuit. The Y signal, R signal, and B signal are sent to the R−Y MOD circuit and the B−Y MOD circuit. The Y signal is sent to the SYNC ADD circuit, where it is combined with a composite-sync signal input from terminal 11, and is then sent to the delay line from terminal 14.

The SC phase-shifting circuit phase-shifts subcarriers input from terminal 10, making 0° and 90° subcarriers. The 0°/90° subcarriers are sent to their respective B−Y MOD circuit and R−Y MOD circuit, where they are turned to a chroma signal by quadrature two-phase modulation using R signals and Y signals or B signals and Y signals. The chroma signal is sent to BPF from terminal 13.

3. YC MIX circuit

The chroma signal with high-frequency waves removed by BPF and the Y signal that was passed through the delay line are sent to the YC MIX circuit from terminals 17 and 16. Here they are mixed and turned into a composite video signal, which is then sent to the C.V. OUT circuit.

4. Composite Video OUT circuit (C.V. OUT circuit)

The composite video signal from the YC MIX circuit is amplified to about 2Vp−p in the C.V. OUT circuit and output from terminals 19 and 20. The C.V. OUT circuit can directly drive a load of 75Ω.

5. RGB OUT circuit

The RGB signal changed over by the SW circuit is amplified to about 1.4Vp−p by the RGB OUT circuit and output from terminals 21 to 23. The RGB OUT circuit can directly drive a load of 75Ω.

6. REG 2V

This produces internal reference voltage by means of the band gap reference circuit. The reference voltage serves as the standard for the clamp electric potential and the size of the burst and sync.

PDG103A (IC805 : DSP ASSY)

DSP Control Micro-computer

1. Outline

- The PDG103A microcomputer is a μ-com for control of VSX-D2S, PD0083A (DSP), and peripheral digital IC.
- Main functions include Dolby Pro-Logic for control of DSP and SFC various processes (EFECT, WALL TYPE, ROOM SIZE, etc.); processes TONE CONTROL, Graphic Equalizer, Parametric Equalizer, Expander/Compressor, BASS BOOSTER, NOISE GATE, etc.; controls various IC such as A/D RESET, F. DAC RESET, MUTING, Zero-detection for both L and R, S.DAC RESET, MUTING, etc.; and performs INPUT ATT, System clock stop during DIRECT, and gain changeover.

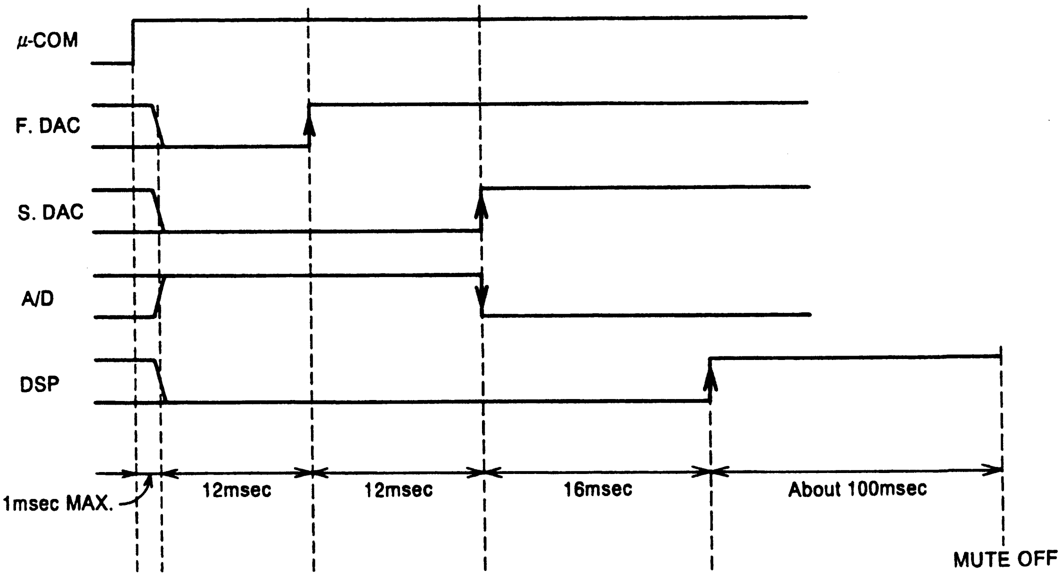
Pin Function

No.	Port Name	Pin Name	I/O	Description
1	PA1	$\overline{\text{S. RST}}$	O	REAR ch DAC RESET terminal L: RESET
2	PA0	S. MUT	O	REAR ch DAC MUTE terminal H: MUTE ON
3	PB7	F.A	O	TC4052BP control port for Front GAIN CONTROL
4	PB6	F.B	O	
5	PB5	C.A	O	TC4052BP control port for Center GAIN CONTROL
6	PB4	C.B	O	
7	PB3	S.A	O	TC4052BP control port for REAR GAIN CONTROL
8	PB2	S.B	O	
9	PB1	–		NC
10	PB0	–		
11 | 17	PC7 | PC1	–		
18	PC0	$\overline{\text{REG}}$/ ELITE		L: REG H: ELITE
19	PD7	–		NC
20	PD6	I. ATT	O	–10dB INPUT ATT (by means of main unit KEY) L: ATT ON
21	PD5	A/D RST	O	A/D converter RESET terminal H: RESET
22	PD4	–		NC
23	PD3	$\overline{\text{DRDY}}$	I	DSP control port
24	PD2	DSP. RES	O	
25	PD1	$\overline{\text{CS}}$	O	
26	PD0	$\text{A}/\overline{\text{D}}$	O	
27 | 30	PH7 | PH4	–		NC
31	MP	–		
32	$\overline{\text{RST}}$	RST		
33	Vss	–		
34	XTAL	–		
35	EXTAL	–		
36	$\overline{\text{CS1}}$	–		
37	PH2/SI1	TDATA	I	DSP control port
38	PH1/SO1	RDATA	O	
39	PH0/SCK1	DSP SCK	O	
40	$\overline{\text{SC0}}$	ST	I	Port for transmission to system control μ-COM
41	SI0	DATA	I	
42	SO0	–		NC
43	$\overline{\text{SCK0}}$	CK	I	Port for transmission to system control μ-COM
44	AVss	–		
45	AVREF	–		
46	AVDD	–		
47 | 54	PF7 | PF0	–		
55 | 62	PG7 | PG0	–		
63 | 68	PE7 | PE2	–		NC
69	PE1	–		

No.	Port Name	Pin Name	I/O	Description
70	PE0	–		
71	MN1	–		
72	VDD	–		
73	Vss	–		
74	NC	–		
75	PA7	–		
76	PA6	F. DATA		Front DAC control port
77	PA5	F. ST		
78	PA4	F. CK	O	
79	PA3	$\overline{\text{F. RESET}}$	O	Front DAC RESET terminal L: RESET
80	PA2	384fs	O	Port for stopping system clock H: STOP

- **Various IC RESET Timing**

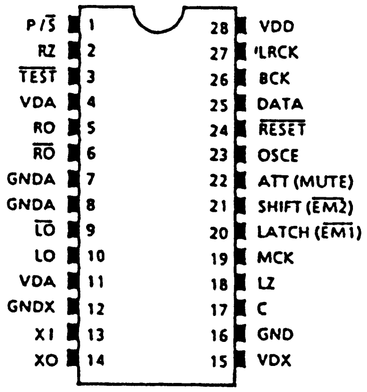
A: Turn 384fs ON when power is turned on (right after μ-COM RESET).

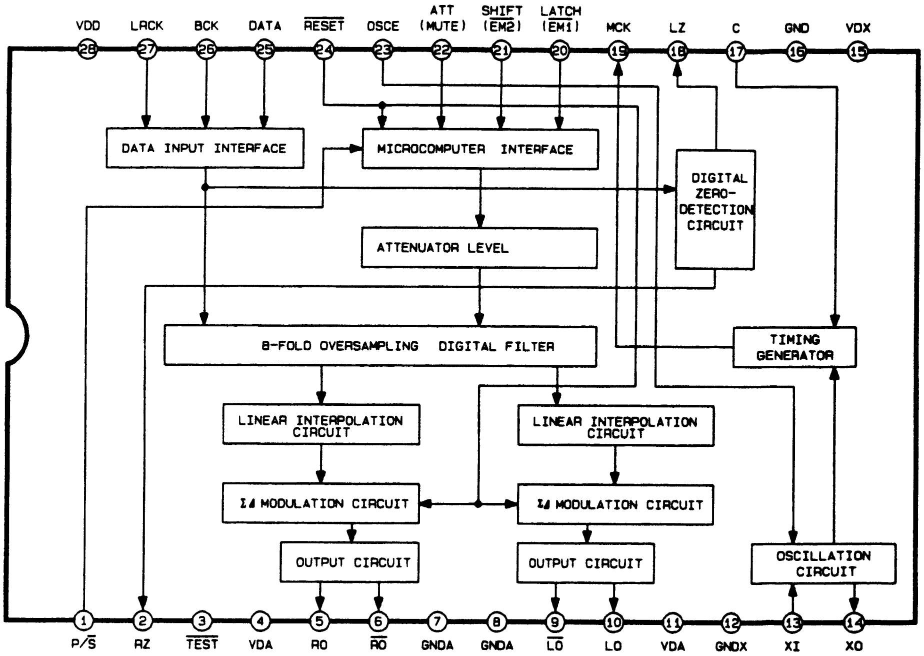

μ-COM
F. DAC
S. DAC
A/D
DSP
1msec MAX.
12msec
12msec
16msec
About 100msec
MUTE OFF

PD2029A (IC806 : DSP ASSY)

● D/A Converter, CMOS IC

● Pin Assignment (Top View)   ● Block Diagram


P/S̄ 1
RZ 2
TEST̄ 3
VDA 4
RO 5
RŌ 6
GNDA 7
GNDA 8
LŌ 9
LO 10
VDA 11
GNDX 12
XI 13
XO 14
28 VDD
27 LRCK
26 BCK
25 DATA
24 RESET̄
23 OSCE
22 ATT (MUTE)
21 SHIFT (EM̄2)
20 LATCH (EM̄1)
19 MCK
18 LZ
17 C
16 GND
15 VDX


VDD
LRCK
BCK
DATA
RESET̄
OSCE
ATT (MUTE)
SHIFT (EM̄2)
LATCH (EM̄1)
MCK
LZ
C
GND
VDX
28
27
26
25
24
23
22
21
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19
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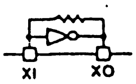
17
16
15
DATA INPUT INTERFACE
MICROCOMPUTER INTERFACE
DIGITAL ZERO-DETECTION CIRCUIT
ATTENUATOR LEVEL
8-FOLD OVERSAMPLING DIGITAL FILTER
TIMING GENERATOR
LINEAR INTERPOLATION CIRCUIT
LINEAR INTERPOLATION CIRCUIT
ΣΔ MODULATION CIRCUIT
ΣΔ MODULATION CIRCUIT
OUTPUT CIRCUIT
OUTPUT CIRCUIT
OSCILLATION CIRCUIT
1
2
3
4
5
6
7
8
9
10
11
12
13
14
P/S̄
RZ
TEST̄
VDA
RO
RŌ
GNDA
GNDA
LŌ
LO
VDA
GNDX
XI
XO

● Pin Function

No.	Symbol	I/O	Description	Remarks
1	P/S̄	I	Serial Control/Parallel Control Changeover Terminal	With pull-up resister
2	RZ	O	R Channel Digital Zero-detection Output Terminal	
3	TEST̄	I	Test terminal. Normally used at "H".	With pull-up resister
4	VDA	–	R Channel D/A Converter Analog Power Terminal	
5	RO	O	R Channel Data Non-Inversion Output Terminal	
6	RŌ	O	R Channel Data Inversion Output Terminal	
7	GNDA	–	R Channel D/A Converter Analog Ground Terminal	
8	GNDA	–	L Channel D/A Converter Analog Ground Terminal	
9	LŌ	O	L Channel Data Inversion Output Terminal	
10	LO	O	L Channel Data Non-Inversion Output Terminal	
11	VDA	–	L Channel D/A Converter Analog Power Terminal	
12	GNDX	–	Oscillator Ground Terminal	
13	XI	I	Crystal Oscillator Connection Terminal Generates clock required by system.	
14	XO	O		

No.	Symbol	I/O	Description	Remarks
15	VDX	–	Oscillator Power Terminal	
16	GND	–	Logic Section Ground Terminal	
17	C	I	Clock Selection Terminal "L" corresponds to 256fs; "H" corresponds to 384fs	With pull-up resister
18	LZ	O	L Channel Digital Zero-Detection Output Terminal	
19	MCK	O	System Clock Output Terminal	
20	LATCH ($\overline{\text{EM1}}$)	I	Input terminal of attenuator-use data latch signal during serial control. Selection terminal of de-emphasis filter mode during parallel control.	With pull-up resister
21	SHIFT ($\overline{\text{EM2}}$)	I	Input terminal of attenuator-use shift clock during serial control. Selection terminal of de-emphasis filter mode during parallel control.	With pull-up resister
22	ATT (MUTE)	I	Input terminal of attenuator-use data during serial control. Muting terminal during parallel control. "H": Mute ON.	With pull-up resister
23	OSCE	I	System Clock Control Terminal "L": System clock is stopped.	With pull-up resister
24	$\overline{\text{RESET}}$	I	Reset Terminal. "L": Σ△ circuit is reset and the attenuator data is set at 00 (HEX).	With pull-up resister
25	DATA	I	Data Input Terminal	
26	BCK	I	Bit Clock Input Terminal	
27	LRCK	I	L/R Clock Input Terminal. (During "H": L channel data is input.)	
28	VDD	–	Logic Section Power Terminal	

■ PDG100B (IC1002 : FL U-COM ASSY)

● **System Control Micro-computer**

● Pin Function

No.	Pin Name	I/O	Description	ACT
1	PE3	I	B. CHECK	
2	PE4/RMC	I	SR IN	
3	PE5	I	ENA (GUI) 1/8	
4	PE6	O	ST1 (TC9163N, TC9176P, TC9274N) 1/8	○
5	PE7	O	MIX Level Control	
6	PB0	O	POWER Relay	
7	PB1	O	REQ (GUI)	
8	PB2	O	CLOCK (GUI)	
9	PB3/SI0	I	DATA (GUI) IN	
10	PB4/SO0	O	DATA (GUI) OUT	
11	PB5	O	CLOCK (DSP)	
12	PB6/SI1	I	ENABLE (DSP)	
13	PB7/SO1	O	DATA (DSP)	
14	PC0/KR0	I	KEY 1 IN	
15	PC1/KR1	I	KEY 2 IN	
16	PC2/KR2	I	KEY 3 IN	
17	PC3/KR3	I	KEY 4 IN	
18	PC4/KR4	O	CLOCK	○
19	PC5/KR5	O	DATA	○
20	PC6/KR6	O	ST3 (M66311P for Front)	
21	PC7/KR7	O	ST2 (M66311P for Video)	○
22	PA0/AN0	I	OVER LOAD Detect Input 12/17	
23	PA1/AN1	O	RST (GUI, DSP) μ-COM. Reset Output	
24	PA2/AN2	I	DC. VR Volume Position Detect Input	
25	PA3/AN3	I	METER FR Level of Level Meter Detect Input	
26	PA4/AN4	I	METER FL	

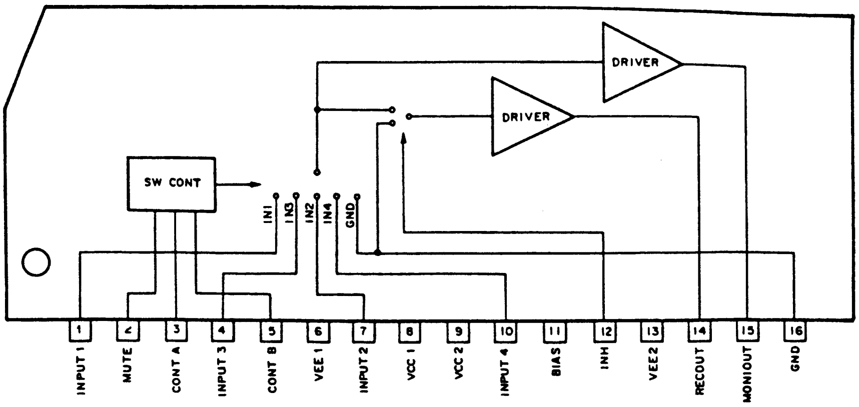
No.	Pin Name	I/O	Description	ACT
27	PA5/AN5	O	O. S. D CLK (M50554)	○
28	PA6/AN6	O	O. S. D STB (M50554)	○
29	PA7/AN7	O	O. S. D DATA (M50554)	○
30	$\overline{\text{RST}}$	I	$\overline{\text{RST}}$ Reset Input	
31	EXTAL	I	Connected to Ceramic oscillator (12MHz)	
32	ETAL	I		
33	Vss		GND	
34	PD0/S0	O	VR UP Volume Up SR. MUTE	
35	PD1/S1	O	VR DOWN Volume Down	
36	PD2/S2	O	VR LED Volume LED	
37	PD3/S3	O	SR OUT	
38	PD4/S4	O	S1 Segment Output	
39	PD5/S5	O	S2	
40	PD6/S6	O	S3	
41	PD7/S7	O	S4 Segment Output/ KEY Scan Output	
42	PF0/S8	O	S5	
43	PF1/S9	O	S6	
44	PF2/S10	O	S7	
45	PF3/S11	O	S8	
46	PF4/S12	O	S9	
47	PF5/S13	O	S10	
48	PF6/S14	O	S11	
49	PF7/S15	O	S12 Segment Output	
50	S16	O	S13	
51	S17	O	S14	
52	S18	O	S15	
53	S19	O	S16	
54	S20	O	S17	

No.	Pin Name	I/O	Description		ACT
55	T15/S21	O	S18	Segment Output	
56	T14/S22	O	S19		
57	T13/S23	O	S20		
58	T12/S24	O	S21		
59	T11/S25	O	S22		
60	T10/S26	O	G11	FL Grid Output	
61	T9/S27	O	G10		
62	T8/S28	O	G9		
63	T7	I	G8		
64	T6	O	G7		
65	T5	O	G6		
66	T4	O	G5		
67	T3	O	G4		

No.	Pin Name	I/O	Description		ACT
68	T2	O	G3	FL Grid Output	
69	T1	O	G2		
70	T0	O	G1		
71	Vfdp	–	−VF		
72	Vdd	–	+5V Power Supply		
73	NC	–	+5V		
74	PG0	O	MUTE. TUNER		○
75	PG1	O	CE. TUNER (LM7001)		○
76	PG2	O	CK. TUNER (LM7001)		○
77	PG3	O	DATA. TUNER (LM7001)		○
78	PE0	I	STOP. TUNER		○
79	PE1	I	STEREO. TUNER		○
80	PE2	I	WAKE-UP (AC) Pulse Input		

■ CXA1558L (IC302, IC303 : VIDEO FUNCTION ASSY)
(IC201−IC204 : S. VIDEO FUNCTION ASSY)

- **4-Input, 2-Output Video Switch**
- Block Diagram


DRIVER
DRIVER
SW CONT
IN1
IN3
IN2
IN4
GND
1 INPUT 1
2 MUTE
3 CONT A
4 INPUT 3
5 CONT B
6 VEE 1
7 INPUT 2
8 VCC 1
9 VCC 2
10 INPUT 4
11 BIAS
12 INH
13 VEE2
14 RECOUT
15 MONIOUT
16 GND

- Output selection

INH	MUTE	CONTA	CONTB	RECOUT
H	∗	∗	∗	GND Electric Potential
L	H	∗	∗	GND Electric Potential
L	L	L	L	INPUT1
L	L	L	H	INPUT3
L	L	H	L	INPUT2
L	L	H	H	INPUT4

∗: Don't Care

- Input selection

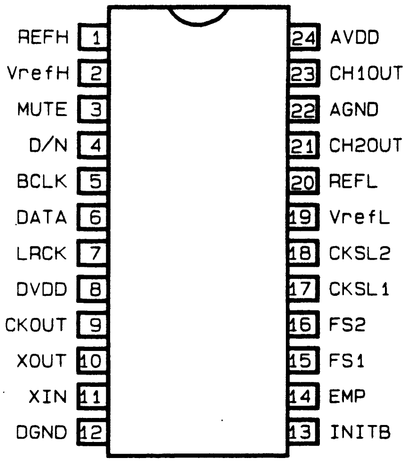
INH	MUTE	CONTA	CONTB	MONIOUT
∗	H	∗	∗	GND Electric Potential
∗	L	L	L	INPUT1
∗	L	L	H	INPUT3
∗	L	H	L	INPUT2
∗	L	H	H	INPUT4

L: ≦ 1.5V, H: ≧ 3.5V ∗: Don't Care

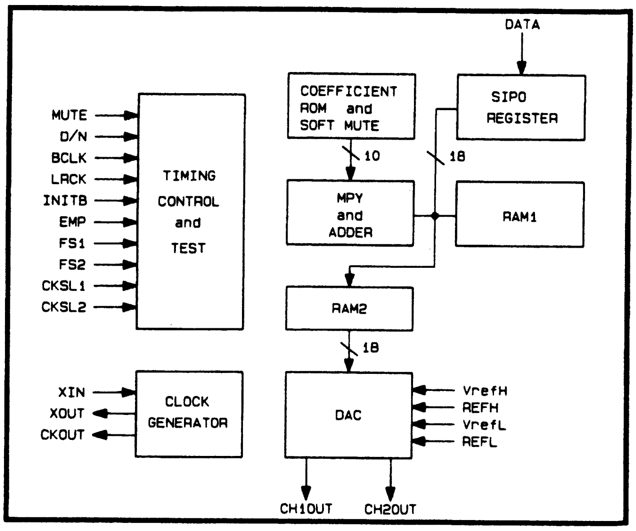
■ LC78835M (IC809 : DSP ASSY)

● 18-bit Digital Filter and 18-bit D/A Converter, CMOS IC

● Pin Assignment (Top View)


REFH 1
VrefH 2
MUTE 3
D/N 4
BCLK 5
DATA 6
LRCK 7
DVDD 8
CKOUT 9
XOUT 10
XIN 11
DGND 12
24 AVDD
23 CH1OUT
22 AGND
21 CH2OUT
20 REFL
19 VrefL
18 CKSL2
17 CKSL1
16 FS2
15 FS1
14 EMP
13 INITB

● Block Diagram


DATA
COEFFICIENT ROM and SOFT MUTE
SIPO REGISTER
MUTE
D/N
BCLK
LRCK
INITB
EMP
FS1
FS2
CKSL1
CKSL2
TIMING CONTROL and TEST
10
18
MPY and ADDER
RAM1
RAM2
18
XIN
XOUT
CKOUT
CLOCK GENERATOR
DAC
VrefH
REFH
VrefL
REFL
CH1OUT
CH2OUT

● Pin Function

No.	Name	Description
1	REFH	Reference Voltage "H" Terminal Usually connected to AGND via capacitor.
2	Vref H	Reference Voltage "H" Input Terminal
3	MUTE	Mute Signal Input Terminal "H": Soft Mute ON
4	D/N	Standard/Double Speed Mode Changeover Terminal "H": Double speed; "L": Standard speed
5	BCLK	Bit Clock Input Terminal
6	DATA	Digital Audio Data Input Terminal Inputs with 2'S complement, MSB first
7	LRCK	LR Clock Input Terminal Inputs CH1 with "H" and CH2 with "L".
8	DVDD	Digital System Power Terminal
9	CKOUT	Clock Output Terminal at 392 fs: 196 fs clock excluding 392 fs: XIN frequency clock
10	XOUT	Crystal Oscillator Output Terminal (System Clock Output Terminal)
11	XIN	Crystal Oscillator Input Terminal (System Clock Input Terminal)
12	DGND	Digital System Ground Terminal
13	INITB	Initializing Signal Input Terminal With "L", initializing is performed.

No.	Name	Description
14	EMP	De-emphasis Filter ON/OFF Changeover Terminal H": ON, "L": OFF
15	FS1	De-emphasis Filter 32kHz/44.1kHz/48kHz Mode Selection Terminal
16	FS2	

FS1	L	H	H	L
FS2	L	L	H	H
fs	44.1kHz		32kHz	48kHz

No.	Name	Description
17	CKSL1	System Clock Selection Terminal
18	CKSL2	

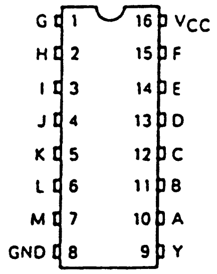
CKSL1	CKSL2	System Clock
L	L	384 fs
L	H	392 fs
H	L	448 fs
H	H	512 fs

No.	Name	Description
19	VrefL	Reference Voltage "L" Input Terminal
20	REFL	Reference Voltage "L" Terminal Normally connected to AGND via capacitor.
21	CH2OUT	CH2 Analog Output Terminal
22	AGND	Analog System Ground Terminal
23	CH1OUT	CH1 Analog Output Terminal
24	AVDD	Analog System Power Terminal

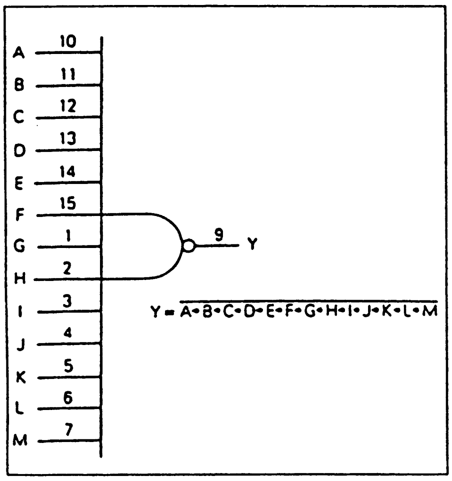
■ MC74HC133F (IC1369 : GRAPHICS ASSY)

● 13-Input Nand Gate, CMOS IC

- Pin Assignment (Top View)

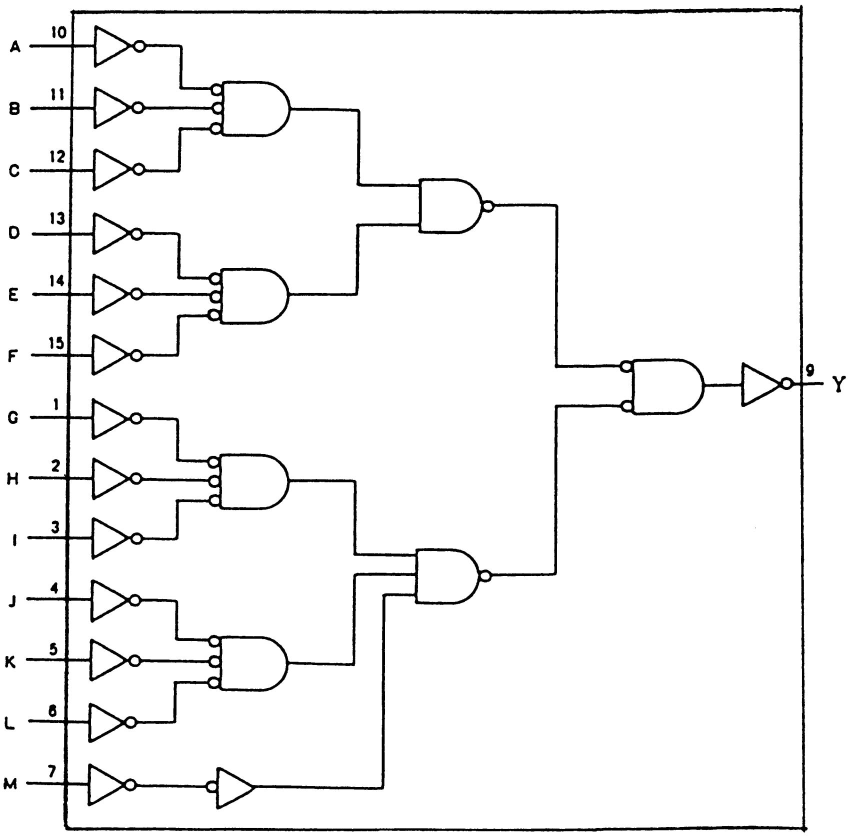

G 1
H 2
I 3
J 4
K 5
L 6
M 7
GND 8
16 Vcc
15 F
14 E
13 D
12 C
11 B
10 A
9 Y

- Block Diagram


A 10
B 11
C 12
D 13
E 14
F 15
G 1
H 2
I 3
J 4
K 5
L 6
M 7
9 Y
$Y = \overline{A \cdot B \cdot C \cdot D \cdot E \cdot F \cdot G \cdot H \cdot I \cdot J \cdot K \cdot L \cdot M}$

Vcc = Pin16, GND = Pin8

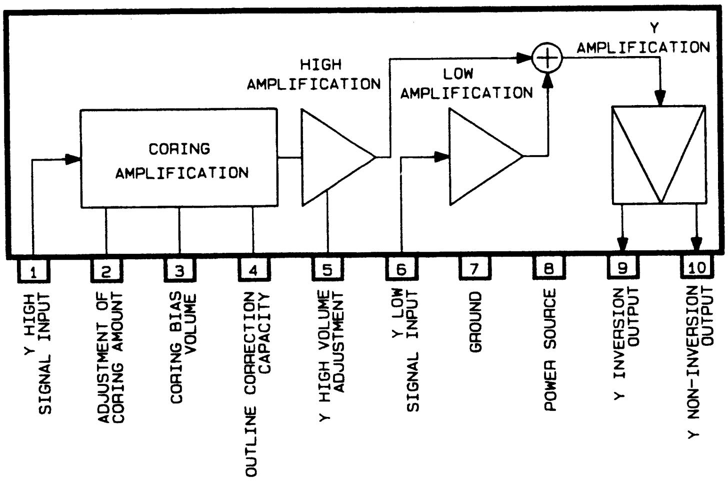
- Logic Diagram


A 10
B 11
C 12
D 13
E 14
F 15
G 1
H 2
I 3
J 4
K 5
L 6
M 7
9 Y

■ M51494L (IC206 : S. VIDEO FUNCTION ASSY)

● Y－Noise Reduction IC

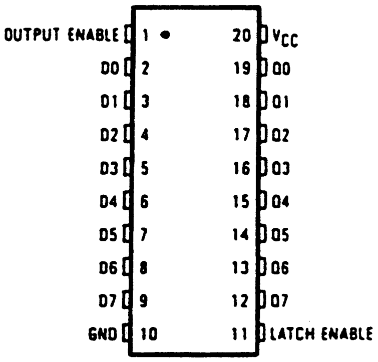
- Block Diagram


CORING AMPLIFICATION
HIGH AMPLIFICATION
LOW AMPLIFICATION
Y AMPLIFICATION
1 Y HIGH SIGNAL INPUT
2 ADJUSTMENT OF CORING AMOUNT
3 CORING BIAS VOLUME
4 OUTLINE CORRECTION CAPACITY
5 Y HIGH VOLUME ADJUSTMENT
6 Y LOW SIGNAL INPUT
7 GROUND
8 POWER SOURCE
9 Y INVERSION OUTPUT
10 Y NON-INVERSION OUTPUT

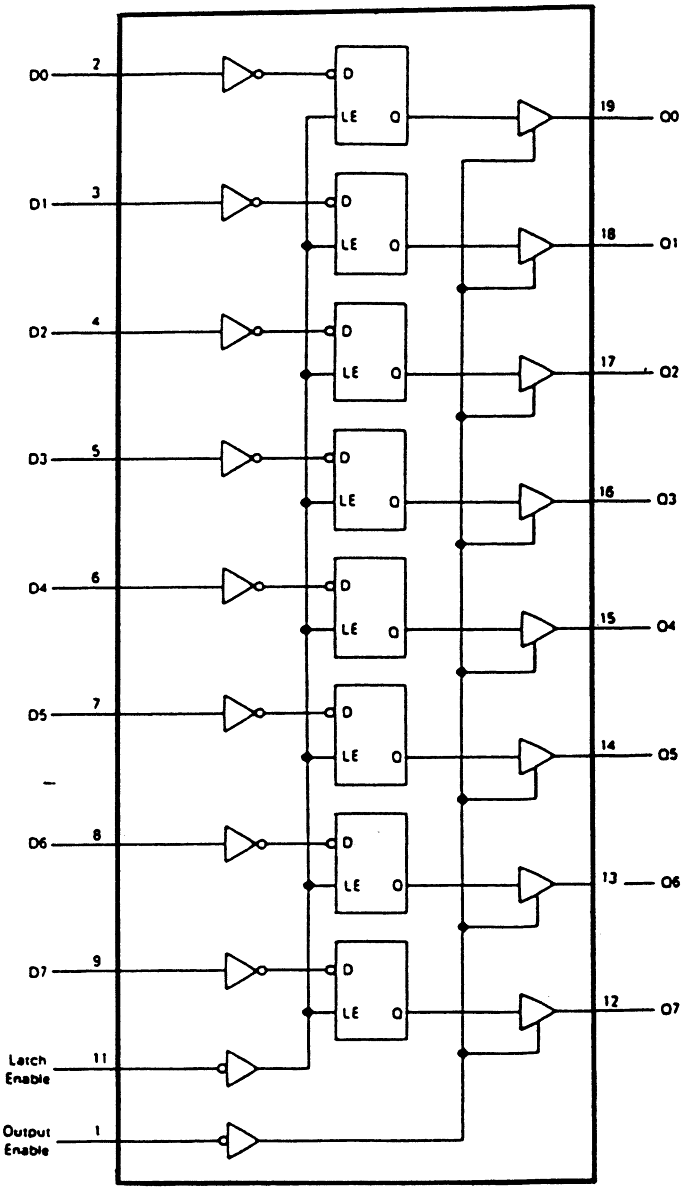
■ MC74HC573AF (IC1366, IC1368 : GRAPHICS ASSY)

● Octal 3-Stage Noninverting D-Type Transparent Latch, CMOS IC

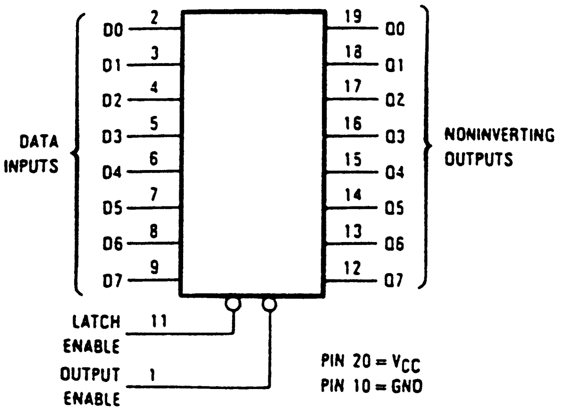
● Pin Assignment (Top View)


OUTPUT ENABLE 1
D0 2
D1 3
D2 4
D3 5
D4 6
D5 7
D6 8
D7 9
GND 10
20 VCC
19 Q0
18 Q1
17 Q2
16 Q3
15 Q4
14 Q5
13 Q6
12 Q7
11 LATCH ENABLE

● Logic Diagram


D0 2
D1 3
D2 4
D3 5
D4 6
D5 7
D6 8
D7 9
Latch Enable 11
Output Enable 1
D
LE
Q
19 Q0
18 Q1
17 Q2
16 Q3
15 Q4
14 Q5
13 Q6
12 Q7

● Block Diagram


DATA INPUTS
D0 2
D1 3
D2 4
D3 5
D4 6
D5 7
D6 8
D7 9
19 Q0
18 Q1
17 Q2
16 Q3
15 Q4
14 Q5
13 Q6
12 Q7
NONINVERTING OUTPUTS
LATCH ENABLE 11
OUTPUT ENABLE 1
PIN 20 = VCC
PIN 10 = GND

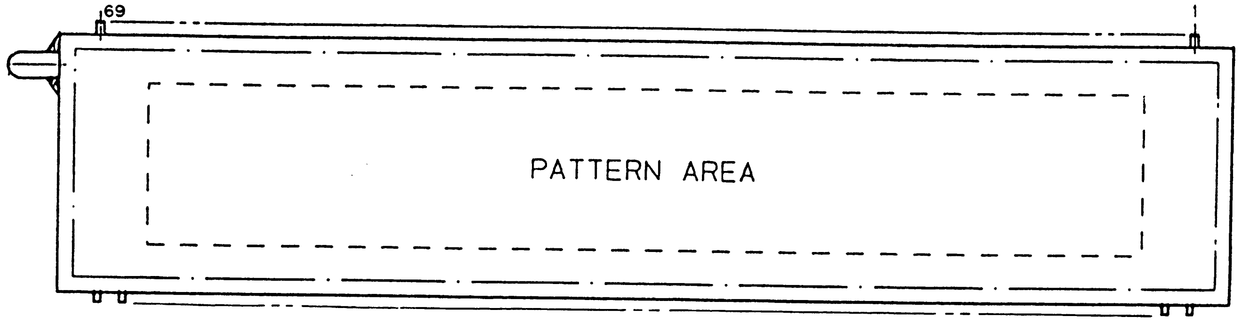
● Function Table

Input			Output
Output Eanble	Latch Enable	D	Q
L	H	H	H
L	H	L	L
L	L	X	No Change
H	X	X	Z

X = Arbitrary
Z = High Impedance

■ AAV1178 (V1 : FL U-COM ASSY)

- **FL Tube**


69
PATTERN AREA

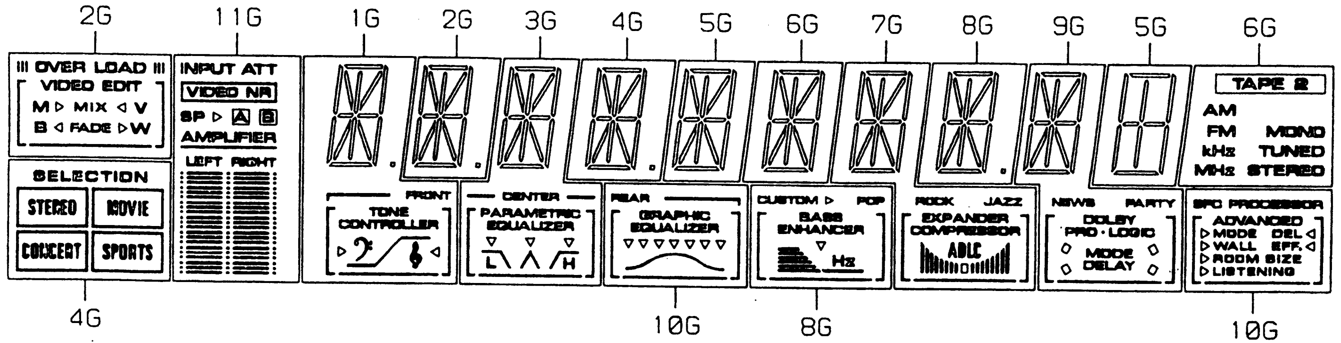
- **Pin Connection**

PIN NO.	69	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
CONNECTION	F2	F2	NP	NP	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	IC	NP	Fd	Fd	NP	IC	P1	P2	P3	P4	P5	P6	P7	P8	P9

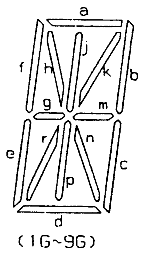
PIN NO.	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NP	NP	F1	F1

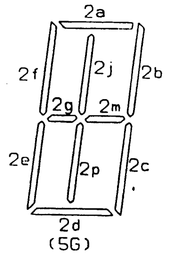
NOTE
1) F1,F2 --- Filament
2) NP ------ No pin
3) NX ------ No extend pin
4) DL ------ Datum Line
5) 1G~11G --- Grid
6) IC ------ Internal connection

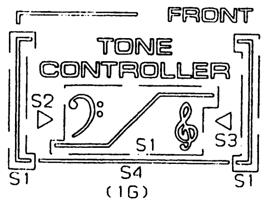
- **Grid Assignment**

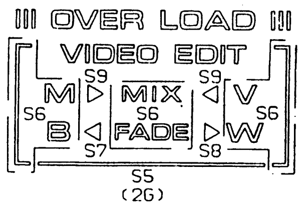

2G
11G
1G
2G
3G
4G
5G
6G
7G
8G
9G
5G
6G
OVER LOAD
VIDEO EDIT
M ▷ MIX ◁ V
B ◁ FADE ▷ W
INPUT ATT
VIDEO NR
SP ▷ A B
AMPLIFIER
LEFT RIGHT
SELECTION
STEREO
MOVIE
CONCERT
SPORTS
TAPE 2
AM
FM
MONO
kHz
TUNED
MHz
STEREO
FRONT
TONE CONTROLLER
CENTER
PARAMETRIC EQUALIZER
REAR
GRAPHIC EQUALIZER
CUSTOM ▷ POP
BASS ENHANCER
Hz
ROCK JAZZ
EXPANDER COMPRESSOR
ADLC
NEWS PARTY
DOLBY PRO·LOGIC
MODE DELAY
SFC PROCESSOR
ADVANCED
MODE DEL
WALL EFF.
ROOM SIZE
LISTENING
4G
10G
8G
10G

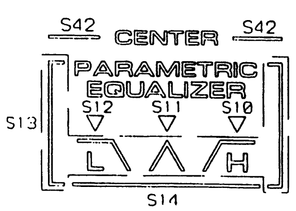
- **Segment Designation**

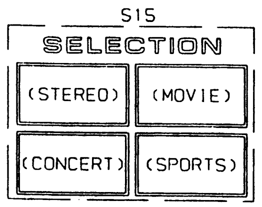

a
f
h
j
k
b
g
m
e
r
n
c
p
d
(1G~9G)

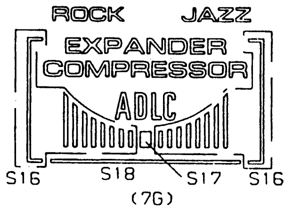

2a
2f
2j
2b
2g
2m
2e
2p
2c
2d
(5G)

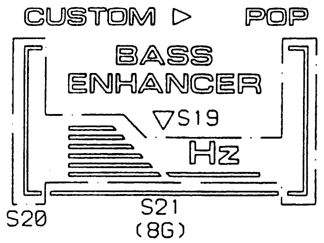

FRONT
TONE
CONTROLLER
S2
S1
S3
S1
S4
S1
(1G)

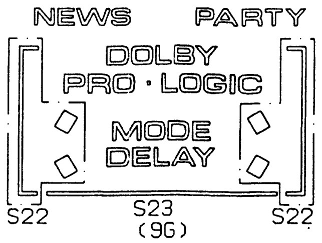

OVER LOAD
VIDEO EDIT
S9
S9
M ▷ MIX ◁ V
S6
S6
S6
B ◁ FADE ▷ W
S7
S8
S5
(2G)

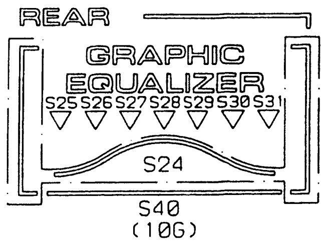

S42
CENTER
S42
PARAMETRIC
EQUALIZER
S12
S11
S10
S13
L
H
S14
(3G)

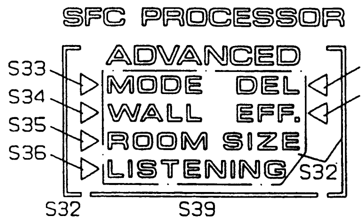

S15
SELECTION
(STEREO)
(MOVIE)
(CONCERT)
(SPORTS)
(4G)

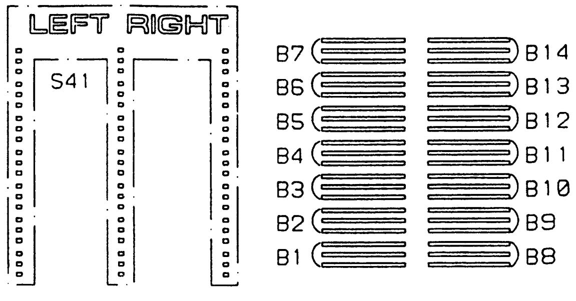

ROCK
JAZZ
EXPANDER
COMPRESSOR
ADLC
S16
S18
S17
S16
(7G)


CUSTOM ▷
POP
BASS
ENHANCER
S19
Hz
S20
S21
(8G)


NEWS
PARTY
DOLBY
PRO·LOGIC
MODE
DELAY
S22
S23
S22
(9G)


REAR
GRAPHIC
EQUALIZER
S25
S26
S27
S28
S29
S30
S31
S24
S40
(10G)

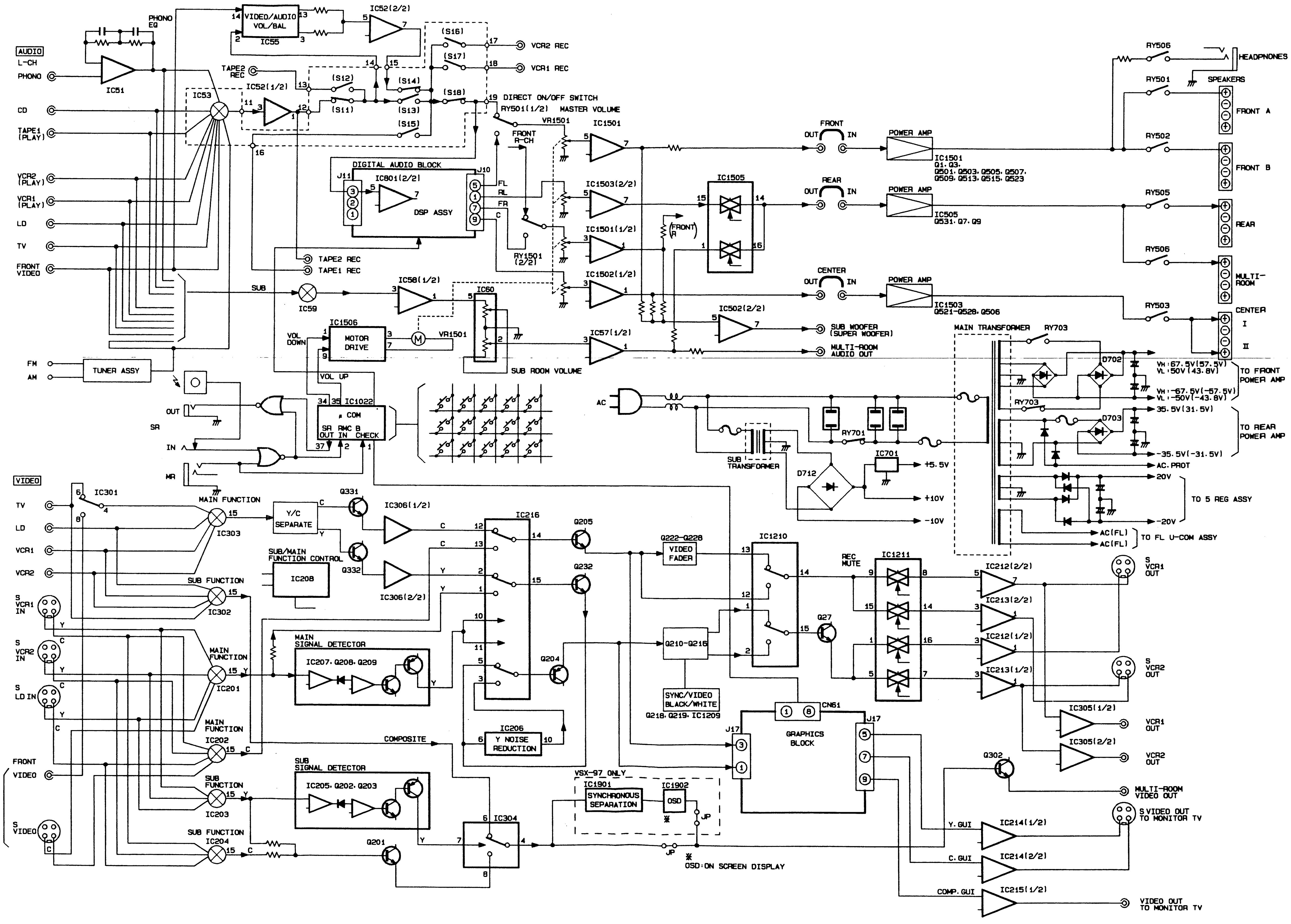

SFC PROCESSOR
S33
S34
S35
S36
ADVANCED
MODE DEL
WALL EFF.
ROOM SIZE
LISTENING
S37
S38
S32
S32
S39
(10G)


LEFT RIGHT
S41
B7
B6
B5
B4
B3
B2
B1
B14
B13
B12
B11
B10
B9
B8
(11G)

- **Anode Connection**

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	INPUT ATT	S40	a	a	a	a	a	a	a	a	a
P2	VIDEO NR	S25	j	j	j	j	j	j	j	j	j
P3	SP ▷	S26	k	k	k	k	k	k	k	k	k
P4	A	S24	h	h	h	h	h	h	h	h	h
P5	B	S39	b	b	b	b	b	b	b	b	b
P6	AMPLIFIER	S36	f	f	f	f	f	f	f	f	f
P7	–	S35	g	g	g	g	g	g	g	g	g
P8	B8	S38	m	m	m	m	m	m	m	m	m
P9	B9	S34	c	c	c	c	c	c	c	c	c
P10	B10	S37	e	e	e	e	e	e	e	e	e
P11	B11	S33	n	n	n	n	n	n	n	n	n
P12	B12	S32	r	r	r	r	r	r	r	r	r
P13	B13	ADVANCED	p	p	p	p	p	p	p	p	p
P14	B14	SFC PROCESSOR	d	d	d	d	d	d	d	d	d
P15	S41	REAR	NEWS	▫ (Dp)	ROCK	TAPE 2	2a, 2d	▫ (Dp)	S42	▫ (Dp)	▫ (Dp)
P16	B1	¬	PARTY	CUSTOM ▷	JAZZ	AM	2b	S15	CENTER	III OVER LOAD III	⌐
P17	B2	GRAPHIC EQUALIZER	DOLBY	POP	EXPANDER	FM	2f	STEREO	PARAMETRIC EQUALIZER	VIDEO EDIT	FRONT
P18	B3	S31	PRO · LOGIC	BASS ENHANCER	COMPRESSOR	kHz	2j , 2p	MOVIE	S10	S9	TONE CONTROLLER
P19	B4	S30	MODE	S19	ADLC	MHz	2m	CONCERT	S11	S7	S2
P20	B5	S29	S22	S20	S16	MONO	2g	SPORTS	S12	S8	S3
P21	B6	S28	DELAY	S21	S17	TUNED	2c	–	S13	S6	S1
P22	B7	S27	S23	–	S18	STEREO	2e	–	S14	S5	S4

9. BLOCK DIAGRAM


AUDIO
L-CH
PHONO
PHONO EQ
IC51
CD
TAPE1 (PLAY)
VCR2 (PLAY)
VCR1 (PLAY)
LD
TV
FRONT VIDEO
FM
AM
TUNER ASSY
IC53
MUSIC MIX FADE
VIDEO/AUDIO VOL/BAL
IC55
IC52(2/2)
IC52(1/2)
TAPE2 REC
(S11)
(S12)
(S13)
(S14)
(S15)
(S16)
(S17)
(S18)
VCR2 REC
VCR1 REC
DIRECT ON/OFF SWITCH
RY501(1/2)
MASTER VOLUME
VR1501
FRONT R-CH
DIGITAL AUDIO BLOCK
J11
J10
IC801(2/2)
DSP ASSY
FL
RL
FR
C
RY1501 (2/2)
TAPE2 REC
TAPE1 REC
SUB
IC59
IC58(1/2)
IC60
IC1506
MOTOR DRIVE
VOL DOWN
VOL UP
VR1501
SUB ROOM VOLUME
IC1501
IC1503(2/2)
IC1501(1/2)
IC1502(1/2)
IC57(1/2)
IC1505
(FRONT) R
IC502(2/2)
FRONT
REAR
CENTER
OUT
IN
POWER AMP
IC1501
Q1, Q3, Q501, Q503, Q505, Q507, Q509, Q513, Q515, Q523
IC505
Q531, Q7, Q9
IC1503
Q521–Q528, Q506
SUB WOOFER (SUPER WOOFER)
MULTI-ROOM AUDIO OUT
RY506
RY501
RY502
RY505
RY506
RY503
HEADPNONES
SPEAKERS
FRONT A
FRONT B
REAR
MULTI-ROOM
CENTER
I
II
SR
OUT
IN
MR
IC1022
μ COM
SR RMC B OUT IN CHECK
AC
RY701
IC701
D712
SUB TRANSFORMER
+5.5V
+10V
-10V
MAIN TRANSFORMER
RY703
D702
D703
VH: 67.5V(57.5V)
VL: 50V(43.8V)
VH: -67.5V(-57.5V)
VL: -50V(-43.8V)
TO FRONT POWER AMP
35.5V(31.5V)
-35.5V(-31.5V)
TO REAR POWER AMP
AC.PROT
20V
-20V
TO 5 REG ASSY
AC(FL)
AC(FL)
TO FL U-COM ASSY
VIDEO
TV
LD
VCR1
VCR2
IC301
MAIN FUNCTION
IC303
SUB FUNCTION
IC302
S VCR1 IN
S VCR2 IN
S LD IN
MAIN FUNCTION
IC201
MAIN FUNCTION
IC202
SUB FUNCTION
IC203
SUB FUNCTION
IC204
FRONT VIDEO
S VIDEO
Y/C SEPARATE
SUB/MAIN FUNCTION CONTROL
IC208
Q331
Q332
IC306(1/2)
IC306(2/2)
MAIN SIGNAL DETECTOR
IC207, Q208, Q209
SUB SIGNAL DETECTOR
IC205, Q202, Q203
COMPOSITE
IC216
Q205
Q232
Q204
IC206
Y NOISE REDUCTION
Q201
IC304
Q222–Q228
VIDEO FADER
Q210–Q216
SYNC/VIDEO BLACK/WHITE
Q218, Q219, IC1209
IC1210
REC MUTE
IC1211
Q27
VSX-97 ONLY
IC1901
SYNCHRONOUS SEPARATION
IC1902
OSD
JP
※ OSD: ON SCREEN DISPLAY
CN61
J17
GRAPHICS BLOCK
IC212(2/2)
IC213(2/2)
IC212(1/2)
IC213(1/2)
S VCR1 OUT
S VCR2 OUT
IC305(1/2)
IC305(2/2)
VCR1 OUT
VCR2 OUT
Q302
MULTI-ROOM VIDEO OUT
S VIDEO OUT TO MONITOR TV
Y.GUI
C.GUI
COMP.GUI
IC214(1/2)
IC214(2/2)
IC215(1/2)
VIDEO OUT TO MONITOR TV

10. REMOTE CONTROL UNIT [CU−VSX068 (AXD1348)] [CU−VSX069 (AXD1349)]

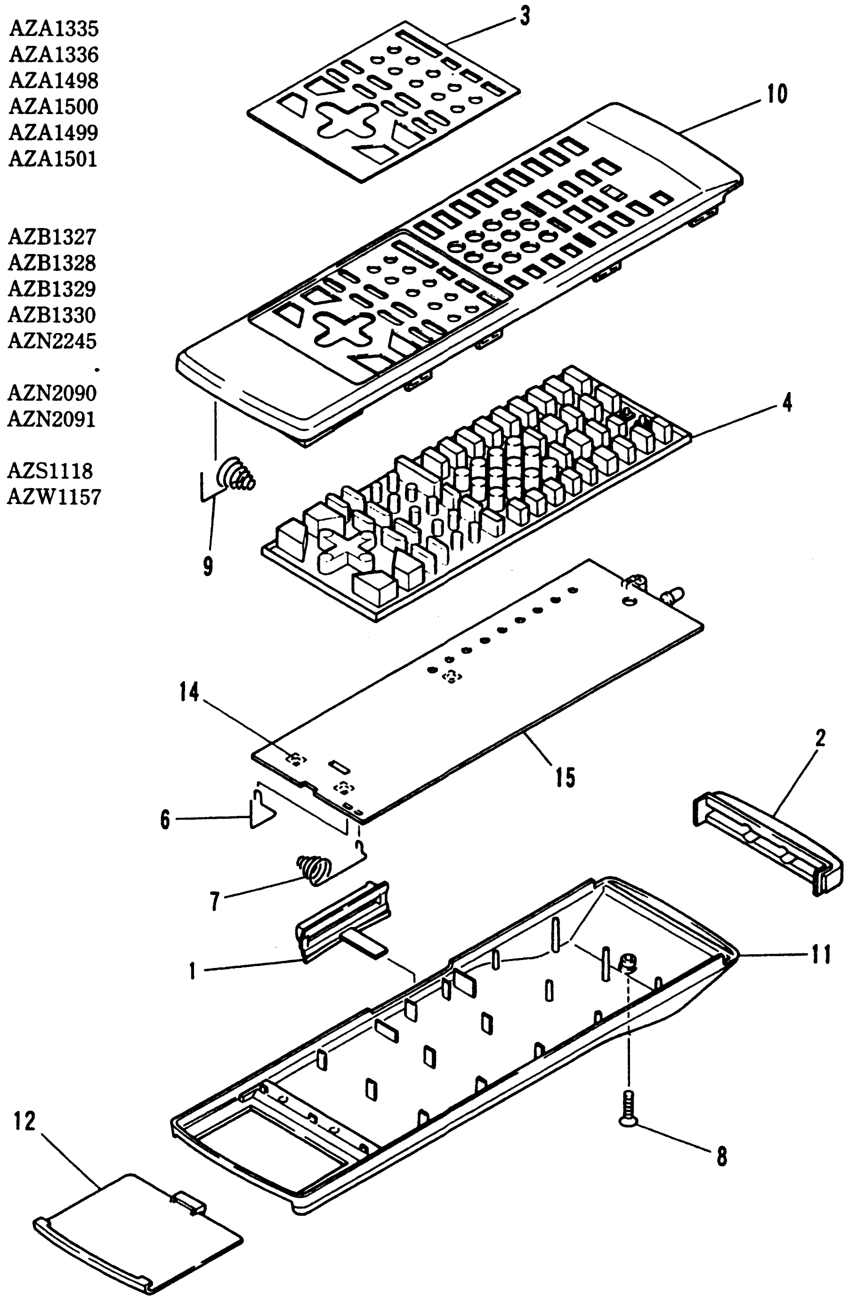
10.1 EXPLODED VIEW AND PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts List

Mark	No.	Description	Parts No.
	1	MODE CHECK KEY	AZA1335
	2	FILTER	AZA1336
	3	PLATE (AXD1348)	AZA1498
	3	PLATE (AXD1349)	AZA1500
	4	RUBBER SHEET (AXD1348)	AZA1499
	4	RUBBER SHEET (AXD1349)	AZA1501
	5	························	
	6	TERMINAL (+)	AZB1327
	7	TERMINAL (−)	AZB1328
	8	SCREW	AZB1329
	9	TERMINAL (C)	AZB1330
	10	CASE (A)	AZN2245
	11	CASE (B)	AZN2090
	12	BATTERY COVER	AZN2091
	13	························	
	14	TACT SW	AZS1118
NSP	15	P. C. BOARD	AZW1157



10.2 PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω → 56 × 10^1 → 561 ························ RD1/8PM $\boxed{5}\boxed{6}\boxed{1}$ J
47kΩ → 47 × 10^3 → 473 ························ RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$ J
0.5Ω → 0R5 ·· RN2H $\boxed{0}\boxed{R}\boxed{5}$ K
1Ω → 010 ·· RS1P $\boxed{0}\boxed{1}\boxed{0}$ K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ → 562 × 10^1 → 5621 ················· RM1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F

Parts list of AXD1348 (VSX−D2S/KU, KC and SD)
AXD1349 (VSX−97/KU/CA)

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC1	μ−COM	ACM001−035
	IC2	IC	AZC1564
	IC3	LOGIC IC	MC74HC138F
	Q1, 2	CHIP TRANSISTOR	2SC3052E
	Q3, 4	TRANSISTOR	2SD1622
	D1−D6	DIODE	DWA010−TE
	D9−D17	LED	AZC1573
	D7	LED	SLR−938C
	D8	DIODE	SPS−503C−3
CAPACITORS			
	C1, 2	CERAMIC CAPACITOR	CCDSL330J50
	C3	CERAMIC CAPACITOR	CCDSL221J50
	C4	CERAMIC CAPACITOR	CKDYX104M25
	C5	ELECT. CAPACITOR	CEAS470M10
	C6	CERAMIC CAPACITOR	CKDYB103K50
	C7	ELECT. CAPACITOR	CEAS221M10
	C8	ELECT. CAPACITOR	CEAS4R7M50
RESISTORS			
	R7, 8	CARBON FILM RESISTOR	RD1/4PMFL1R5J
		Other resistors	RD1/8PM☐☐☐J
OTHERS			
	X1	RESONATOR	AZC1570

10.3 SCHEMATIC DIAGRAM (FOR AXD1348 AND AXD1349)

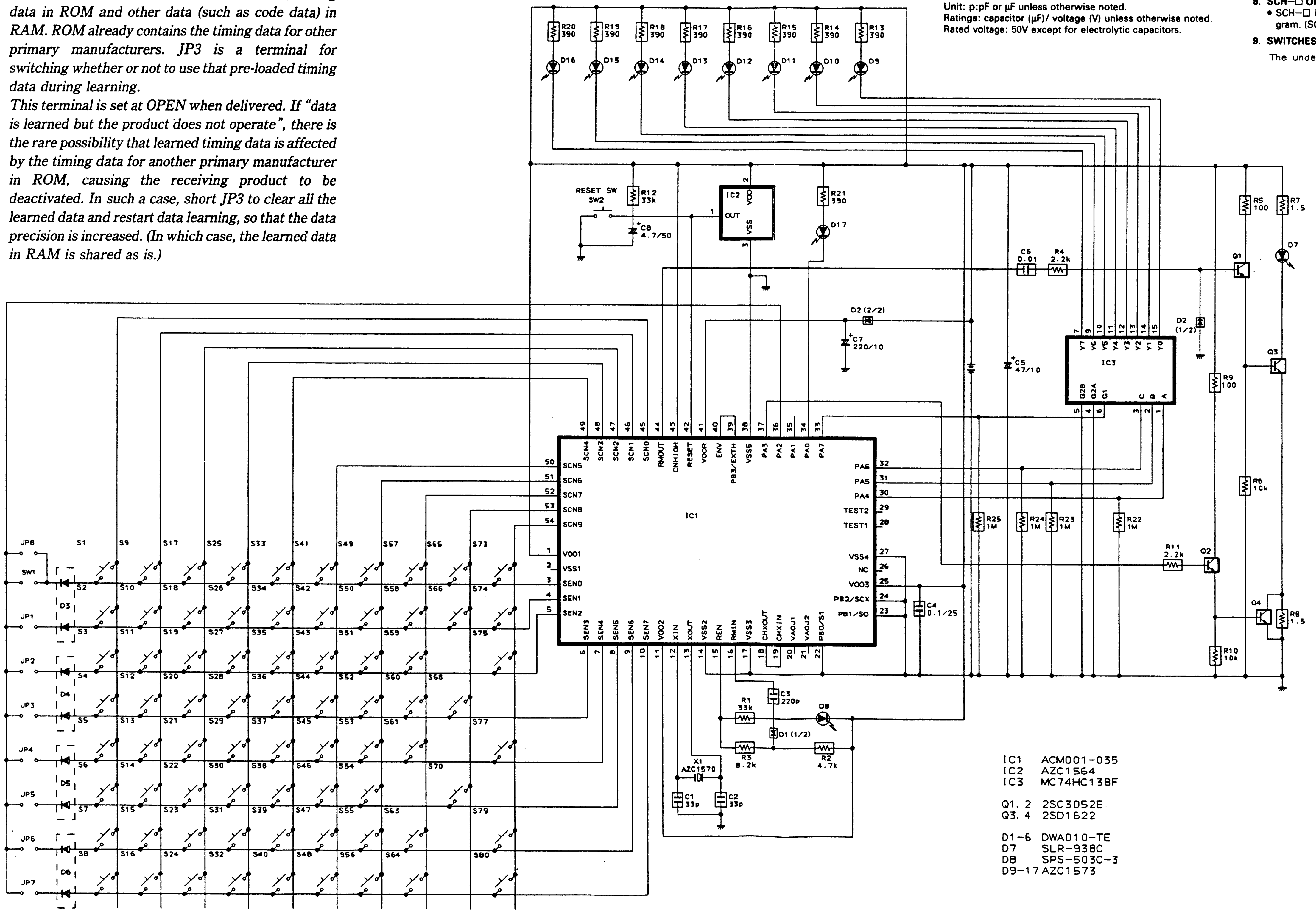
NOTE)

JP2 : The terminal for switching Fc (carrier frequency of the fixed code). This terminal is set at OPEN (Fc = 40kHz) when delivered. If a product of another manufacturer accidentally receives the PIONEER code, short the terminal so that Fc will be 36.7kHz. (In which case, the learned code and preset code do not change.)

JP3 : This remote control saves the learned data, timing data in ROM and other data (such as code data) in RAM. ROM already contains the timing data for other primary manufacturers. JP3 is a terminal for switching whether or not to use that pre-loaded timing data during learning.
This terminal is set at OPEN when delivered. If "data is learned but the product does not operate", there is the rare possibility that learned timing data is affected by the timing data for another primary manufacturer in ROM, causing the receiving product to be deactivated. In such a case, short JP3 to clear all the learned data and restart data learning, so that the data precision is increased. (In which case, the learned data in RAM is shared as is.)

NOTE

-▭- : Indicates a chip resistor.
-▮- : Indicates a chip capacitor.
⊡ : Indicates a chip transistor.
⊠ : Indicates a chip diode.


R20 390
R19 390
R18 390
R17 390
R16 390
R15 390
R14 390
R13 390
D16
D15
D14
D13
D12
D11
D10
D9
RESET SW SW2
R12 33k
C8 4.7/50
IC2
OUT
VDD
VSS
R21 390
D17
C6 0.01
R4 2.2k
Q1
R5 100
R7 1.5
D7
D2 (2/2)
C7 220/10
C5 47/10
IC3
Y7 Y6 Y5 Y4 Y3 Y2 Y1 Y0
G2B G2A G1 C B A
D2 (1/2)
Q3
R9 100
R6 10k
IC1
SCN4 SCN3 SCN2 SCN1 SCN0 RMOUT CNHIGH RESET VDDR ENV PB3/EXTH VSS5 PA3 PA2 PA1 PA0 PA7
SCN5 SCN6 SCN7 SCN8 SCN9
VDD1 VSS1 SEN0 SEN1 SEN2
PA6 PA5 PA4 TEST2 TEST1
VSS4 NC VDD3 PB2/SCX PB1/SO
SEN3 SEN4 SEN5 SEN6 SEN7 VDD2 XIN XOUT VSS2 REN RMIN VSS3 CHXOUT CHXIN VADJ1 VADJ2 PB0/SI
C4 0.1/25
R25 1M
R24 1M
R23 1M
R22 1M
R11 2.2k
Q2
Q4
R8 1.5
R10 10k
R1 33k
C3 220p
D8
D1 (1/2)
R3 8.2k
R2 4.7k
X1 AZC1570
C1 33p
C2 33p
JP8
SW1
JP1
D3
JP2
D4
JP3
JP4
D5
JP5
JP6
D6
JP7
S1 S9 S17 S25 S33 S41 S49 S57 S65 S73
S2 S10 S18 S26 S34 S42 S50 S58 S66 S74
S3 S11 S19 S27 S35 S43 S51 S59 S75
S4 S12 S20 S28 S36 S44 S52 S60 S68
S5 S13 S21 S29 S37 S45 S53 S61 S77
S6 S14 S22 S30 S38 S46 S54 S70
S7 S15 S23 S31 S39 S47 S55 S63 S79
S8 S16 S24 S32 S40 S48 S56 S64 S80

IC1 ACM001-035
IC2 AZC1564
IC3 MC74HC138F

Q1, 2 2SC3052E
Q3, 4 2SD1622

D1-6 DWA010-TE
D7 SLR-938C
D8 SPS-503C-3
D9-17 AZC1573

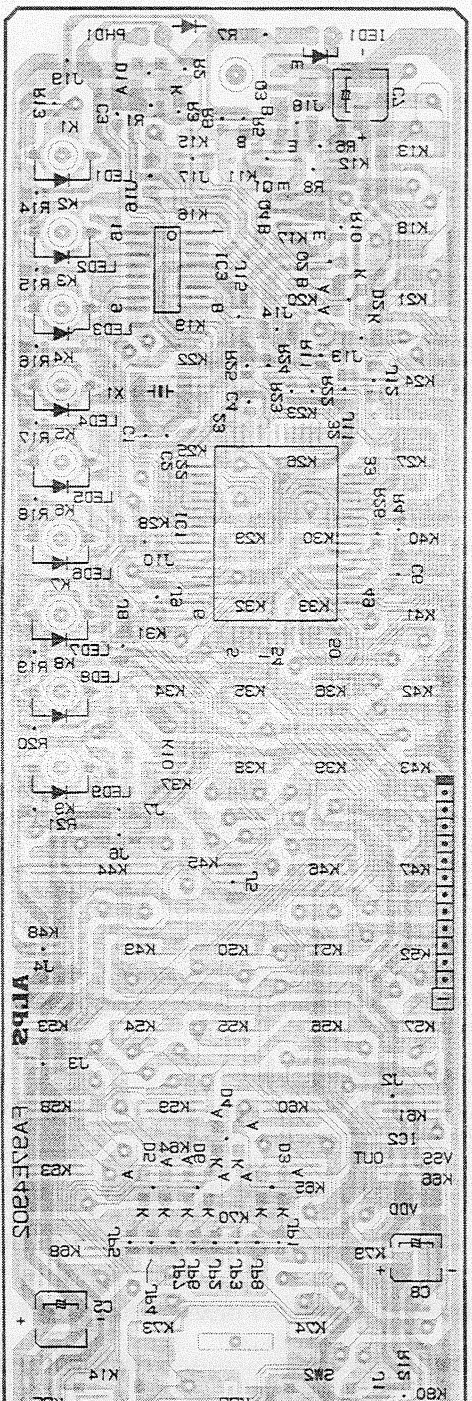
NOTE FOR SCHEMATIC DIAGRAMS (Type 2A)

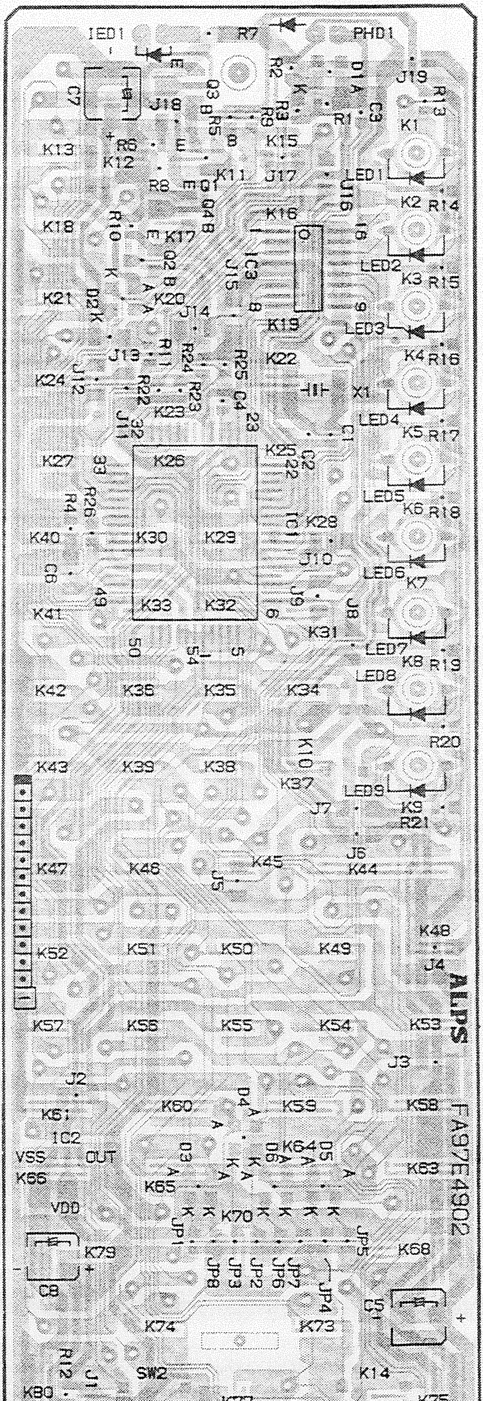
1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or µF unless otherwise noted.
   Ratings: capacitor (µF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or µH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ▭ or ← V :
   DC voltage (V) at no input signal unless otherwise noted.
   ⇦ mA or ← mA :
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ● : Adjusting point.
   - : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH-☐ ON THE SCHEMATIC DIAGRAM:**
   - SCH-☐ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):
   The underline indicates the switch position

SW2:RESET
S1:VCR1
S2:VCR2
S3:LD
S4:TV
S5:CD
S6:TUNER
S7:DECK I
S8:DECK II
S9:DAT
S10:MODE CHECK
S11:LEARN
S12:EDIT
S13:MULTI COMMAND
S14:M.CLEAR
S15:POWER
S16: ⏮
S17:REC
S18: ⏭
S19: ◀◀
S20: ◀ (SEARCH)
S21: ▶▶
S22: ❚❚
S23: ■
S24: ▶
S25:TV/VCR (+10)
S26:SELECT (DISP)
S27:TV FUNC (BAND)
S28 1
S29:2
S30:3
S31:4
S32:5
S33:6
S34:7
S35:8
S36:9
S37:10/0
S38:11/PGM
S39:12/CLEAR
S40:CUSTOM (TV VOL+)
S41:SCAN (TV VOL−)
S42 FREQ/CH (Λ)
S43:FREQ/CH (V)
S44 RECEIVER POWER
S45:SLEEP
S46:RETURN
S47:MUTING
S48:TAPE1
S49 TAPE2 MONITOR
S50:PHONO
S51:TUNER
S52 CD
S53:VCR1
S54 VCR2
S55:VIDEO
S56:TV/SAT
S57:LD
S58:V-EDIT
S59:SYSTEM SELECTOR A
S60:SYSTEM SELECTOR B
S61:DESIGN
S63:MENU
S64:SYSTEM SELECTOR C
S65 SYSTEM SELECTOR D
S66:PARAMETER
S68:SELECTION *
S70:▲
S73:◀
S74 ▶
S75:ENTER↲
S77:▼
S79:MASTER VOLUME +
S80 MASTER VOLUME −

10.4 P. C. BOARD PATTERN (FOR AXD1348 AND AXD1349)

NOTE :
The switch number (K No.) for the P.C.BOARD coincides with the switch number (S No.) for the Schematic diagram.

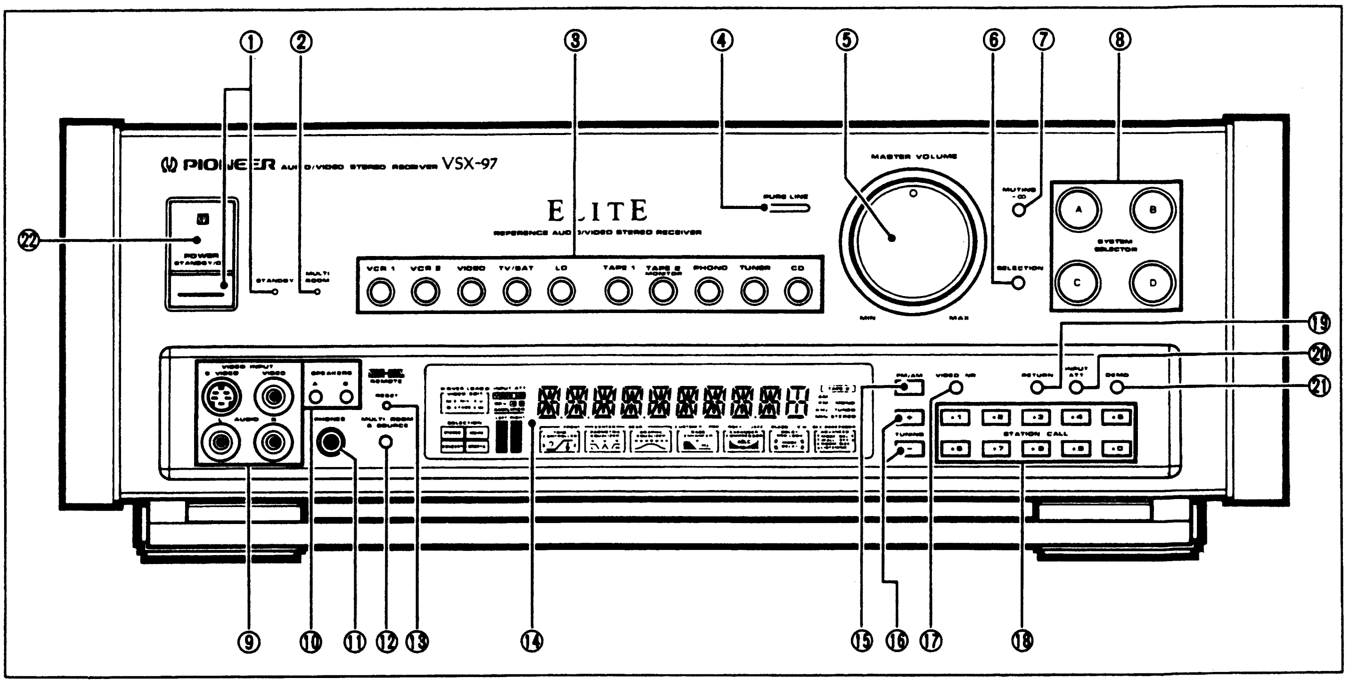

ALPS
FA97E4902


IED1
R7
PHD1
D1A
J19
R13
C7
J18
Q3
R2
R3
R9
R1
C9
K1
K13
R6
R5
K15
K12
R8
Q1
K11
J17
LED1
J16
K2
R14
K18
R10
Q4
K17
K16
IC3
LED2
K3
R15
K21
D2
Q2
K20
J15
J14
K19
LED3
K4
R16
J13
R11
R24
R25
K22
K24
J12
R22
R23
C4
X1
C1
LED4
K23
J11
K5
R17
K27
K26
K25
C2
LED5
K6
R18
R4
R26
IC1
K28
K40
K30
K29
J10
LED6
C6
K7
K41
K33
K32
J9
J8
K31
LED7
K8
R19
LED8
K42
K36
K35
K34
K10
R20
K43
K39
K38
K37
LED9
K9
J7
R21
J6
K47
K48
K45
J5
K44
K48
J4
K52
K51
K50
K49
ALPS
K57
K56
K55
K54
K53
J3
J2
K61
K60
D4
K59
K58
IC2
VSS
OUT
D3
D6
K64
D5
K66
K65
K63
VDD
K70
JP1
JP5
K79
JP8
JP3
JP2
JP6
JP7
JP4
K68
C8
C5
K74
K73
R12
J1
SW2
K14
K80
K77
K75
FA97E4902

11. PANEL FACILITIES

FRONT PANEL FACILITIES

FOR VSX−97


①
②
③
④
⑤
⑥
⑦
⑧
PIONEER AUDIO/VIDEO STEREO RECEIVER VSX-97
ELITE
REFERENCE AUDIO/VIDEO STEREO RECEIVER
PURE LINE
MASTER VOLUME
MUTING
SELECTION
SYSTEM SELECTOR
A
B
C
D
POWER
STANDBY
MULTI ROOM
VCR 1
VCR 2
VIDEO
TV/SAT
LD
TAPE 1
TAPE 2 MONITOR
PHONO
TUNER
CD
MIN
MAX
⑲
⑳
㉑
㉒
VIDEO INPUT
AUDIO
PHONES
MULTI ROOM & SOURCE
FM/AM
TUNING
RETURN
INPUT ATT
DEMO
STATION CALL
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱

① POWER STANDBY/ON switch/indicator

This is the switch for electric power.

ON .... When set to the ON position, power is supplied and the unit becomes operational.

STANDBY .. When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is STANDBY, and goes out during ON.

② MULTI ROOM indicator

This lights when the Multi Room & Source function is switched ON with the MULTI ROOM & SOURCE button (⑫).

③ Input selector buttons

- **Video input selector**

VCR 1 : Press when performing playback on a first VCR unit.

VCR 2 : Press when performing playback on a second VCR unit.

VIDEO : Press when performing playback on a TV camera or VCR connected to VIDEO INPUT jack on the front panel.

TV/SAT : Press to watch TV broadcasts from the TV tuner connected to the rear panel TV/SAT IN jacks.

LD : Press when performing playback on an LD player.

- **Audio input selector**

TAPE 1 : Press when performing playback on a cassette deck.

TAPE 2 MONITOR
: Press when performing playback on a second cassette deck and when monitoring recording. On/off switching is independent of other input selector buttons.

PHONO : Press when playing records on a turntable.

TUNER : Press when listening to radio broadcasts.

CD : Press when playing compact discs on a CD player.

NOTE:

High level input may result in distortion because of the digital processing performed by this unit's Digital Signal Processor. This is particularly true when using a turntable with a high output cartridge. If there is distortion due to an excessively high input level from the cartridge or another component, use the INPUT ATT button (⑳) to adjust input level.

④ PURE LINE button/indicator

Press this to listen to source sound without passing the audio signal through sound quality and balance adjusting circuitry.

The SFC mode, and rear and center speakers are automatically switched off. The display section is also switched off, together with the DSP clock signal, eliminating low-level noise.

⑤ MASTER VOLUME control

Use to adjust the sound volume from the front, center, and rear speakers. When you adjust volume by remote control, the indicator on the knob flashes.

⑥ SELECTION button

This recalls in sequence the four factory preset system configurations for first-time users.

→ STEREO → MOVIE → CONCERT → SPORTS

STEREO : AMPLIFIER + GRAPHIC EQUALIZER + EXPANDER/COMPRESSOR

MOVIE : AMPLIFIER + PRO LOGIC PROCESSOR + BASIC SFC (MOVIE) + TONE CONTROLLER + BASS ENHANCER

FOR VSX−97

CONCERT : AMPLIFIER + BASIC SFC (CONCERT) + GRAPHIC EQUALIZER + BASS ENHANCER

SPORTS : AMPLIFIER + BASIC SFC (SPORTS) + PARAMETRIC EQUALIZER + EXPANDER/COMPRESSOR + BASS ENHANCER

⑦ MUTING −∞ button

Press to temporarily cut off the sound volume. When pressed again, the sound will return to its previous level. During MUTING operation, the MASTER VOLUME knob indicator flashes.

⑧ SYSTEM SELECTOR A, B, C, D, buttons

Use these to recall the systems you created by combining add-on functions with the DESIGN function.
When used with the GUI (Graphic User Interface) function, the DESIGN function is operated with on-screen (TV) indications.

⑨ VIDEO INPUT jacks

Video components such as a TV camera or VCR, etc. can be connected here.

⑩ SPEAKERS A, B buttons

These are ON/OFF buttons for the speaker systems. When switched ON, the speaker indicators (SP ▷ [A] [B]) in the display section light.

⑪ PHONES jack

Connect the plug on your headphones to this jack. To hear only through the headphones, set all SPEAKERS A and B buttons to the OFF position.

NOTE:
There are no ON/OFF switches for the rear and center speakers, so when you want to listen only on headphones, set to the STEREO mode. If you want to listen to other than the STEREO mode, reduce rear and center volume levels using the remote control.

⑫ MULTI-ROOM & SOURCE button

Use in combination with the separately sold MR-100 Multi-Room remote control unit.
When this button is on, the source selected with the input selector button at that time is set to the Sub room function. The selected sub-function's sound is output through MULTI-ROOM AUDIO OUT jacks and MULTI-ROOM SPEAKERS, and the video signal is output through the MULTI-ROOM VIDEO OUT jack. If you install speaker systems connected to the MULTI-ROOM SPEAKERS terminals in a different room, you can enjoy different sources in two different rooms with a single main unit.

⑬ RESET button

Use this when normal operation becomes impossible because of external influences such as static electricity or lightning, or when operation is impossible even when operation buttons are pressed. Press this button to return to normal operating conditions.
If you press this button when the power is ON, the unit switches to POWER STANDBY, and the entire contents of the memory are erased.

⑭ Display section

⑮ FM/AM button

Use this to switch between FM and AM frequency band reception.

⑯ TUNING +, − buttons

+: Performs tuning in ascending frequency order.
−: Performs tuning in descending frequency order.

⑰ VIDEO NR button

Press ON, and picture noise interference is reduced.
When switched ON, the VIDEO NR indicator in the display section lights.

NOTE:
When TV broadcast reception conditions are extremely poor, or when playing back a badly recorded video cassette tape, noise reduction may not be entirely effective.

⑱ STATION CALL (Random 30 ch.) buttons

These buttons are used to recall preset broadcast stations.
Using the GUI (Graphic User Interface) function lets you preset broadcast stations with on-screen display indications. FM MPX mode (AUTO/MONO) presets can be set at the same time.

NOTE:
Pressing a STATION CALL button when a component other than TUNER is selected causes the input selector setting to switch to TUNER.

⑲ RETURN button

Press this button to return the receiver into the initial state, TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

• TAPE 2 MONITOR	OFF
• SPEAKERS A	ON
• MUTING	OFF
• SYSTEM	STEREO
• INPUT SELECTOR	TUNER
• STATION CALL	The last received FM broadcast station.*

* When a station is not received, station search will automatically proceed from the frequency displayed.

⑳ INPUT ATT button

Use this when there is distortion due to an excessively high input signal level. When this is switched ON, −10 dB attenuator operates, and the INPUT ATT indicator in the display section lights.

NOTE:
This button does not operate when the PURE LINE button is in the on position.

㉑ DEMO button

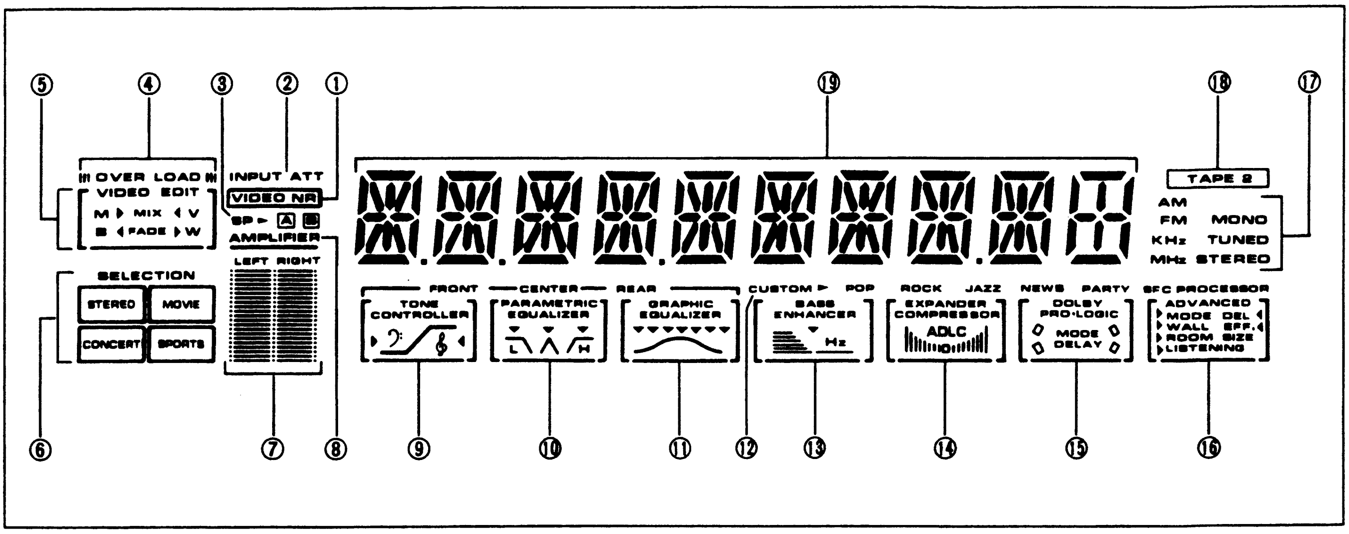
The demonstration is activated by pressing the DEMO button while the power of the unit is ON. The demonstration mode is automatically canceled when the demonstration ends. Press any other button to cancel.

㉒ Remote sensor window

FOR VSX-97

DISPLAY SECTION

NOTE:
Pressing the PURE LINE button on switches the display section off.


⑤
④
③
②
①
⑲
⑱
⑰
OVER LOAD
VIDEO EDIT
M MIX V
B FADE W
INPUT ATT
VIDEO NR
SP A B
AMPLIFIER
LEFT RIGHT
SELECTION
STEREO
MOVIE
CONCERT
SPORTS
TAPE 2
AM
FM
MONO
KHz
TUNED
MHz
STEREO
FRONT
CENTER
REAR
CUSTOM
POP
ROCK
JAZZ
NEWS
PARTY
SFC PROCESSOR
TONE CONTROLLER
PARAMETRIC EQUALIZER
L
H
GRAPHIC EQUALIZER
BASS ENHANCER
Hz
EXPANDER COMPRESSOR
ADLC
DOLBY PRO-LOGIC
MODE
DELAY
ADVANCED
MODE
DEL
WALL
EFF.
ROOM
SIZE
LISTENING
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯

① VIDEO NR indicator

Lights when the video noise reduction circuitry is switched ON.

② INPUT ATT indicator

Lights when the input attenuator circuitry is switched ON.

③ SP ▷ [A] [B] indicators

[A] : Lights when FRONT SPEAKERS A are ON.
[B] : Lights when FRONT SPEAKERS B are ON.

④ OVERLOAD indicator

Lights when the input signal level is excessive.

⑤ VIDEO EDIT indicators

When the VIDEO EDIT mode is selected, the bottom line lights. When ◁ is indicated on the left side of the "FADE" display, images fade in from black and fade out to black. When ▷ is indicated on the right side of the display, images fade in from white and fade out to white. When fading in or out, "VIDEO EDIT" and the bottom line, and ◁ or ▷ flash, indicating that video editing is in progress. During mixing level setting, ▷ and ◁ by the sides of "MIX" flash, indicating that mixing is in progress.

⑥ SELECTION indicators

Displays preset system names recalled with the SELECTION button. Each time the SELECTION button is pressed, the display changes as follows.

→ STEREO → MOVIE → CONCERT → SPORTS ┐

⑦ Level indicators

Indicate input signal levels.

⑧ AMPLIFIER indicator

When AMPLIFIER is selected with PARAMETER CONTROL, this flashes to indicate that balance adjustment and TEST TONE operation are possible.

⑨ TONE CONTROLLER indicators

If TONE CONTROLLER is included in the selected system, the bottom line lights. At this time, the channels that can be controlled (FRONT, CENTER, REAR) light in the top display.
When you select TONE CONTROLLER with PARAMETER CONTROL, the bottom line flashes, indicating that tone control operation is possible.
Pertinent indications during operation flash (e.g. FRONT BASS + operation, "FRONT", "TONE CONTROLLER", and ▷ flash).

⑩ PARAMETRIC EQUALIZER indicators

If the selected system includes PARAMETRIC EQUALIZER, the bottom line lights. At this time, the channels that can be equalized (FRONT, CENTER) light in the top display.
When you select PARAMETRIC EQUALIZER with PARAMETER CONTROL, the bottom line flashes, indicating that parametric equalizer operation is possible. Pertinent indications light during operation.

⑪ GRAPHIC EQUALIZER indicators

If the selected system includes GRAPHIC EQUALIZER, the bottom line lights. At this time, the channels that can be equalized (FRONT, CENTER) light in the top display.
When you select GRAPHIC EQUALIZER with PARAMETER CONTROL, the bottom line flashes, indicating that graphic equalizer operation is possible. Pertinent indications light during operation.

⑫ CUSTOM indicators

Indicate the selection made from tuner section custom memory (POP, ROCK, JAZZ, NEWS, PARTY).

⑬ BASS ENHANCER indicators

If the selected system includes BASS ENHANCER, the bottom line lights.
When you select BASS ENHANCER with PARAMETER CONTROL, the bottom line flashes, indicating that bass enhancer operation is possible. "BASS ENHANCER" and "▽" flash during operation.

⑭ EXPANDER/COMPRESSOR indicators

If the selected system includes EXPANDER/COMPRESSOR, the bottom line lights.
When you select EXPANDER/COMPRESSOR with PARAMETER CONTROL, the bottom line flashes, indicating that expander/compressor operation and ADLC (Automatic Digital Level Control) operation are possible. Pertinent indications light during operation.

⑮ DOLBY surround indicators

If the selected system includes the PRO LOGIC PROCESSOR, the bottom line lights.
During DOLBY 3CH LOGIC operation, "PRO LOGIC" does not light.
When you select PRO LOGIC PROCESSOR with PARAMETER CONTROL, the bottom line flashes, indicating that DOLBY surround operation is possible. When operation starts, pertinent indications light.

⑯ SFC PROCESSOR indicators

If the selected system includes ADVANCED S.F.C. or BASIC S.F.C., the bottom line lights.
During BASIC S.F.C. operation, "ADVANCED" does not light. Pertinent indications light during operation.

⑰ Tuner indications

AM, kHz	: During AM band reception, this lights when the frequency is indicated in the character display ⑲.
FM, MHz	: During FM band reception, this lights when the frequency is indicated in the character display ⑲.
MONO	: Lights when the FM MPX mode is MONO.
TUNED	: Lights when a broadcast station is tuned into. However, it does not light if reception is extremely weak.
STEREO	: Lights when a stereo broadcast is received in the stereo mode.

⑱ TAPE 2 indicator

Lights when the TAPE 2 MONITOR is switched ON.

⑲ Character display

Offers multiple displays including input selector positions, reception frequencies, and various parameters. Here are some examples of displays.

- **INPUT SELECTOR**

PHONO

LASER DISC

- **VIDEO SIGNAL SELECTOR**

V.SEL VIDEO

- **TUNER**

30ch. 108.00

FOR VSX-97

- **MUTE ON**

MUTING

- **SLEEP TIMER**

SLEEP 90m

- **S.F.C.**
  - ■ INITIAL DELAY

INIT.DEL 10

■ WALL TYPE

S W--+--- H

■ ROOM SIZE

S---+W--L

■ EFFECT

EFFECT 100

■ S.F.C. MODE

THEATER

- **EXPANDER/COMPRESSOR**

COMP. 2

EXP. 3

FLAT

ADLC ON

- **PRO LOGIC**

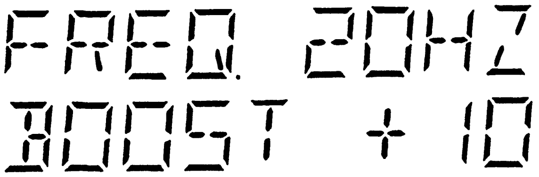
3ch LOGIC

PHANTOM

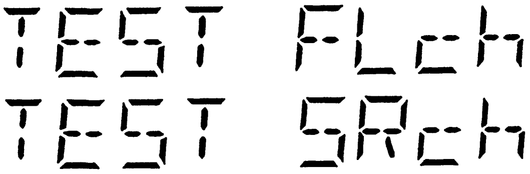
DELAY 30mS

FOR VSX−97

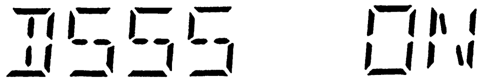
- **BASS ENHANCER**


FREQ. 20HZ
BOOST +10

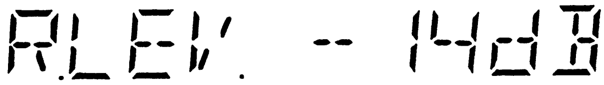
- **AMPLIFIER**
  - ■ TEST TONE


TEST FLch
TEST SRch

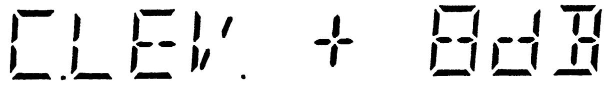
- ■ DSSS



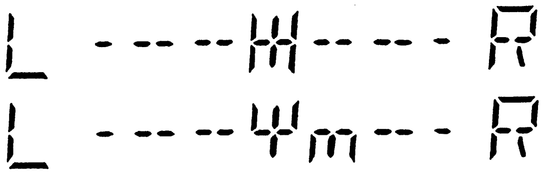
- ■ REAR LEVEL



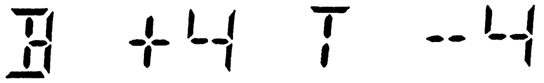
- ■ CENTER LEVEL



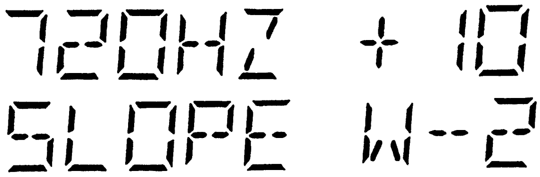
- ■ BALANCE



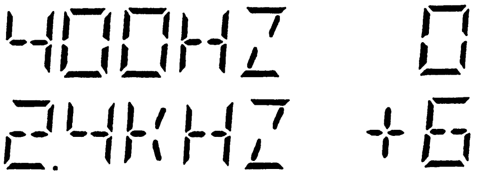
- **TONE CONTROLLER**



- **PARAMETRIC EQUALIZER**


720HZ +10
SLOPE W--2

- **GRAPHIC EQUALIZER**


400HZ 0
2.4KHZ +6

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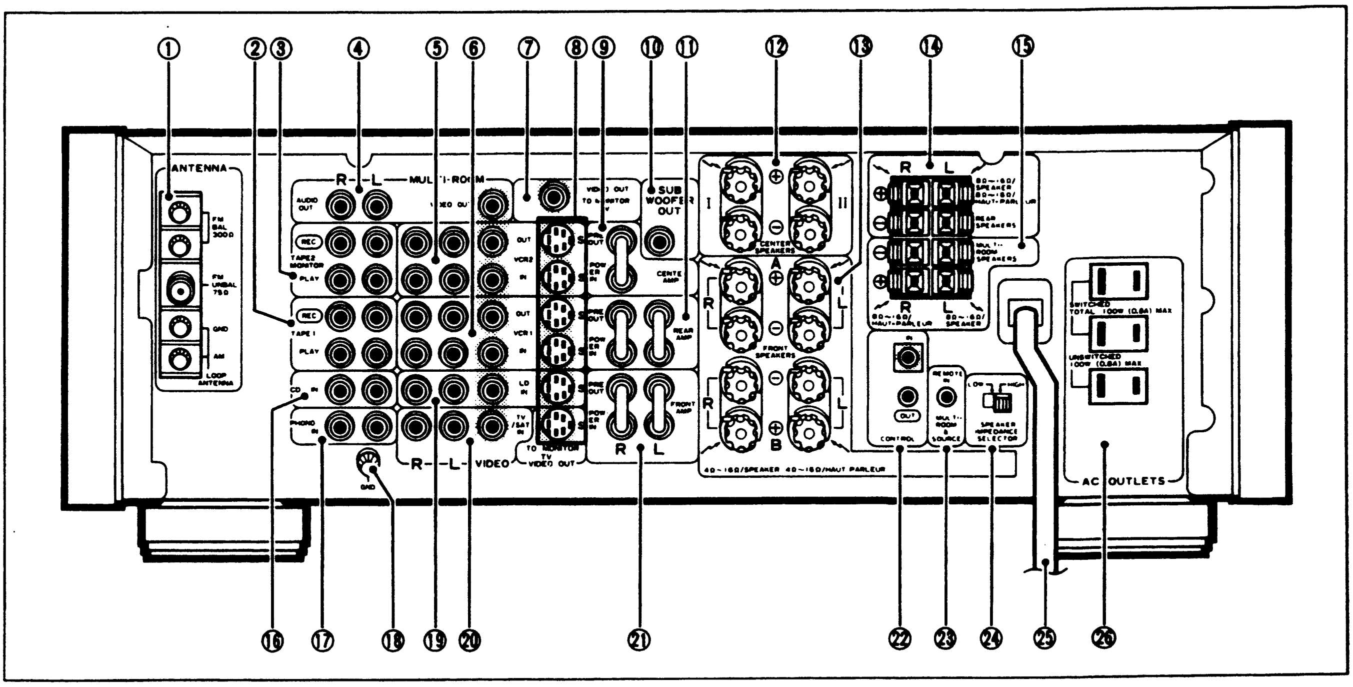
REAR PANEL FACILITIES



① FM/AM ANTENNA terminals

Use these antenna terminals for reception of normal FM and AM broadcasts by attaching the accessory AM loop and FM T-type antennas.

- For details regarding antenna connection, see the section "HINTS

② TAPE 1 jacks

Connect a cassette deck to these jacks.

Connection for Recording

The tape recording jack (TAPE REC) on the cassette deck should be connected to the REC side of the TAPE 1 jack on the receiver with a pin plug connecting cord.

Connection for Playback

Connect the TAPE PLAY jack on the cassette deck to the PLAY side of the TAPE 1 jack on the receiver with a pin plug connecting cord.

③ TAPE 2 MONITOR jacks

Connect a second cassette deck to these jacks.

Connection for Recording

The tape recording jack (TAPE REC) on the cassette deck should be connected to the REC side of the TAPE 2 jack on the receiver with a pin plug connecting cord.

Connection for Playback

Connect the TAPE PLAY jack on the cassette deck to the PLAY side of the TAPE 2 jack on the receiver with a pin plug connecting cord.

④ MULTI-ROOM jacks

Connect here to enjoy a sub function during MULTI-ROOM & SOURCE operation.

[VIDEO OUT]

Connect the monitor TV for use in the Sub room.

[AUDIO OUT]

When operating MULTI-ROOM & SOURCE with surround in the Main room, use this jack for sound in the Sub room.

⑤ VCR 2 jacks

[VIDEO IN]

Connect to the VCR 2 VIDEO OUTPUT jack.

[AUDIO IN (L, R)]

Connect to the VCR 2 AUDIO OUTPUT jacks.

[VIDEO OUT]

Connect to the VCR 2 VIDEO INPUT jack.

[AUDIO OUT (L, R)]

Connect to the VCR 2 AUDIO INPUT jacks.

⑥ VCR 1 jacks

[VIDEO IN]

Connect to the VCR 1 VIDEO OUTPUT jack.

[AUDIO IN (L, R)]

Connect to the VCR 1 AUDIO OUTPUT jacks.

[VIDEO OUT]

Connect to the VCR 1 VIDEO INPUT jack.

[AUDIO OUT (L, R)]

Connect to the VCR 1 AUDIO INPUT jacks.

⑦ VIDEO OUT TO MONITOR TV jack (output)

Use this jack to connect a TV monitor or a TV set with video input terminals for watching program materials from a VCR or Video disc player (LD player) and for GUI operations.

⑧ S (connector) video jacks

When used in conjunction with a VCR, Video disc player (LD player) or TV monitor equipped with S video jacks, connect to these jacks.

⑨ CENTER AMP jacks

[PRE-OUT]

When a separate power amplifier is used to drive the surround center speaker, connect the power amplifier to this jack.

[POWER IN]

When a separate preamplifier is used for a center speaker and this unit is used as a power amplifier, connect the preamplifier to this jack.

⑩ SUB WOOFER OUT jack

If you want to boost the low frequencies, or want to use the unit in a 3D system, connect to a sub woofer power amplifier.

⑪ REAR AMP jacks

[PRE OUT]

When a separate power amplifier is used to drive the rear speakers, connect the power amplifier to these jacks.

[POWER IN]

When a separate preamplifier is used for rear speakers and this unit is used as a power amplifier, connect the preamplifier to these jacks.

⑫ CENTER SPEAKER terminals

Connecting the surround center channel speaker system(s).
You can connect two speakers for dual center, so you can locate speakers on both sides of the TV.

Speaker impedance:

Refer to ㉔ SPEAKER IMPEDANCE SELECTOR switch.

NOTE:

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdowns may occur when conductors come into contact with each other.

⑬ FRONT SPEAKERS terminals

A: Connect to the first set of speakers.
B: Connect to a second set of speakers.

Speaker impedance:

Refer to ㉔ SPEAKER IMPEDANCE SELECTOR switch.

NOTE:

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdowns may occur when conductors come into contact with each other.

⑭ REAR SPEAKERS terminals

Connect the rear speakers to these terminals.

Speaker impedance

Connect speaker systems with a nominal impedance of between 8 and 16 Ω.

NOTE:

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdowns may occur when conductors come into contact with each other.

⑮ MULTI-ROOM SPEAKERS terminals

Connect to the Multi-room speakers.

Speaker impedance

Connect speaker systems with a nominal impedance of between 8 and 16 Ω.

NOTE:

Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdowns may occur when conductors come into contact with each other.

⑯ CD IN jacks

Connect to compact disc player.

⑰ PHONO IN jacks

Connect to turntable.

⑱ GND terminal

Connect the turntable ground lead to this terminal.

⑲ LD jacks (input)

[VIDEO IN]

When watching the video image from an LD player or a VCR used for playback, connect its VIDEO OUTPUT jack here.

[AUDIO IN (L,R)]

When playing back the audio channel from an LD player (CD CDV LD player) or a VCR for playback, connect its AUDIO OUTPUT jacks here.

⑳ TV/SAT jacks (input)

Use these jacks if you wish to connect a TV tuner with both video and audio outputs.

[VIDEO IN]

Connect the TV tuner's VIDEO OUTPUT to this jack.

[AUDIO IN (L, R)]

Connect the TV tuner's AUDIO OUTPUT to these jacks.

㉑ FRONT AMP jacks

[PRE-OUT]

When a separate power amplifier is used to drive the front speakers, connect the power amplifier to these jacks.

[POWER IN]

When a separate preamplifier is connected and this unit is used as a power amplifier, connect the preamplifier to these jacks.

㉒ CONTROL IN, OUT jacks

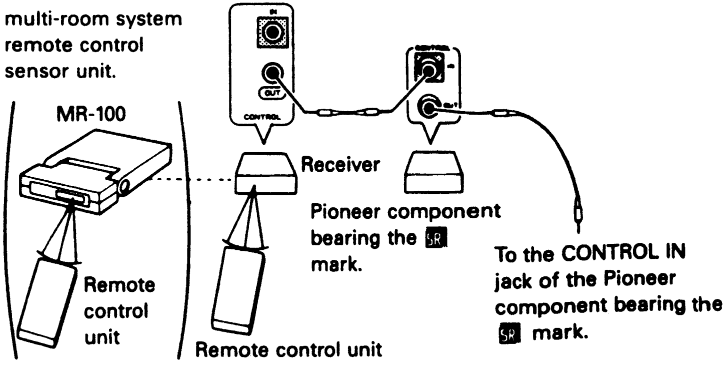
Used for system control with other Pioneer components bearing the SR mark.

IN : For connection from the CONTROL OUT jack of another component (TV, etc.).
OUT : For connection to the CONTROL IN jack of another component.

NOTE:

The receiver's remote sensor does not function when a plug is inserted in the IN jack. To operate, point the remote control unit at the remote sensor on the component to which the receiver's IN jack is connected.

When using the MR-100 multi-room system remote control sensor unit.


MR-100
IN
OUT
CONTROL
Receiver
Pioneer component bearing the SR mark.
To the CONTROL IN jack of the Pioneer component bearing the SR mark.
Remote control unit
Remote control unit

FOR VSX−97

㉓ MULTI-ROOM & SOURCE REMOTE IN jack

When using the MULTI-ROOM & SOURCE function, connect to the separately sold MR-100 Multi-Room remote control unit.

㉔ SPEAKER IMPEDANCE SELECTOR switch

Set this switch to match the nominal impedance of your front and center speakers.

- Position HIGH

Front speakers	Center speaker(s)
A or B (1 pair); 8 Ω	4 Ω to 16 Ω (DUAL; 8 Ω to 16 Ω)
A and B (2 pairs); 16 Ω	

- Position LOW

Front speakers	Center speaker(s)
A or B (1 pair); 8 Ω	4 Ω to 16 Ω (DUAL; 8 Ω to 16 Ω)
A or B (1 pair); 4 Ω	8 Ω to 16 Ω (DUAL; 16 Ω)
A and B (2 pairs); 8 Ω	

NOTE:
Turn off the receiver's power before changing the impedance selector switch setting.

㉕ AC Power cord

Connect to AC wall socket.

NOTE:
This unit should be disconnected by removing the power plug from the wall socket when not in regular use, e.g. when on vacation.

㉖ AC OUTLETS

SWITCHED TOTAL 100 W (0.8 A) MAX

Power supplied through these outlets is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W (0.8 A).

UNSWITCHED 100 W (0.8 A) MAX

Power flows continually to this outlet, regardless of whether the receiver is switched ON or OFF. Electrical power consumption of the connected equipment should not exceed 100 W (0.8 A).

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to these AC OUTLETS in order to avoid overheating and fire risk.
This can cause the receiver to malfunction.

CAUTION:
DO NOT CONNECT MONITOR OR TV SET.

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12. SPECIFICATIONS

FOR VSX−97

Amplifier section

OUTPUT POWER (POWER AMP IN)

[2 CHANNEL MODE]

Continuous average power output of 125 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.005 % total harmonic distortion.**

[5 CHANNEL MODE]

Front, center	70 W + 70 W, 70 W (1 kHz, 0.005 %, 8 Ω)
Rear (or MULTI-ROOM)	45 W + 45 W (1 kHz, 0.8 %, 8 Ω)
Dynamic power (2 Ω/4 Ω)	315 W/280 W

Audio section

Input (Sensitivity/Impedance)	
PHONO MM	2.5 mV/47 kΩ
CD, TAPE 1, TAPE 2, VIDEO, TV/SAT, LD, VCR 1, VCR 2	200 mV/47 kΩ
POWER AMP IN	1 V/47 kΩ
Phono Overload Level (T.H.D. 0.08 %, 1 kHz)	
PHONO MM	110 mV
Output (Level/Impedance)	
TAPE 1 REC, TAPE 2 REC, VCR 1 OUT, VCR 2 OUT	200 mV/2.2 kΩ
Frequency Response	
PHONO MM	20 Hz to 20,000 Hz ±0.3 dB
CD, TAPE 1, TAPE 2, VIDEO, TV/SAT, LD, VCR 1, VCR 2 (PURE LINE ON)	20 Hz to 100,000 Hz $^{+0}_{-3}$ dB
Signal-to-Noise Ratio (IHF, short-circuited, A network)	
PHONO MM	82 dB
CD, TAPE 1, TAPE 2, VIDEO, TV/SAT, LD, VCR 1, VCR 2 (PURE LINE ON)	98 dB
Signal-to-Noise Ratio [EIA, at 1 W (1 kHz)]	
PHONO MM	80 dB
CD, TAPE 1, TAPE 2, VIDEO, TV/SAT, LD, VCR 1, VCR 2	84 dB

VIDEO Section

Input (Sensitivity/Impedance)	
VCR 1, VCR 2, LD, TV/SAT, VIDEO	1 Vp-p/75 Ω
Output (Level/Impedance)	
VCR 1, VCR 2, TO MONITOR TV, MULTI-ROOM VIDEO OUT	1 Vp-p/75 Ω
Frequency Response	
VCR 1, VCR 2, LD, TV/SAT, VIDEO → TO MONITOR TV	5 Hz to 10 MHz $^{+0}_{-3}$ dB
Signal-to-Noise Ratio	50 dB
Cross Talk	50 dB

[S terminals]

Input (Sensitivity/Impedance)	
VCR 1, VCR 2, VIDEO, LD	Luminance signal: 1 Vp-p/75 Ω Color difference signal: 0.286 Vp-p/75 Ω
Output (Level/Impedance)	
VCR 1, VCR 2, TO MONITOR TV	Luminance signal: 1 Vp-p/75 Ω Color difference signal: 0.286 Vp-p/75 Ω
Signal-to-Noise Ratio	
Luminance signal	50 dB
Cross talk	50 dB

Surround section

Input (Sensitivity/Impedance)	
REAR POWER AMP IN	1 V/22 kΩ
CENTER POWER AMP IN	1 V/22 kΩ
Output (Level/Impedance)	
REAR PRE AMP OUT	1 V/1 kΩ
CENTER PRE AMP OUT	1 V/1 kΩ

FM Tuner Section

Frequency Range	87.5 MHz to 108 MHz
Usable Sensitivity	Mono; 11.2 dBf, IHF (1.0 μV/75 Ω)
50 dB Quieting Sensitivity	Mono; 16.4 dBf, (1.8 μV/75 Ω) Stereo; 38.2 dBf, (22 μV/75 Ω)
Signal-to-Noise Ratio	Mono; 80 dB (at 65 dBf) Stereo; 76 dB (at 85 dBf)
Distortion	Mono; 0.08 % (100 Hz) 0.08 % (1 kHz) 0.2 % (6 kHz) Stereo; 0.2 % (100 Hz) 0.15 % (1 kHz) 0.3 % (6 kHz)
Capture Ratio	1.0 dB
Alternate Channel Selectivity	65 dB (400 kHz)
Stereo Separation	50 dB (1 kHz) 35 dB (30 Hz to 15 kHz)
Frequency Response	30 Hz to 15 kHz $^{+0.5}_{-2.0}$ dB
Image Interference Ratio	50 dB
IF Interference Ratio	80 dB
AM Suppression Ratio	55 dB
Spurious Interference Ratio	70 dB
Antenna Input	300 Ω balanced 75 Ω unbalanced

AM Tuner Section

Frequency range	530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna)	300 μV/m
Selectivity	30 dB
Signal-to-Noise Ratio	50 dB
Image Interference Ratio	40 dB
IF Interference Ratio	60 dB
Antenna	Loop antenna

Miscellaneous

Power requirements	AC 120 V, 60 Hz
Power consumption	380 W, 500 VA
In standby condition	5 W
AC Outlets	SWITCHED x 2: TOTAL 100 W (0.8 A) MAX UNSWITCHED x 1: 100 W (0.8 A) MAX
Dimensions	457 (W) x 162 (H) x 458 (D) mm 18 (W) x 6-3/8 (H) x 18 (D) in
Weight (without package)	18.0 kg (39 lb 11 oz)

Furnished Parts

FM T-type antenna	1
AM Loop antenna	1
Size "AA" Alkaline batteries (LR6/AM-3)	2
Remote control unit	1
Operating Instructions	1
Supplemental Operating Instructions	1

NOTE:
Specifications and the design are subject to possible modifications without notice due to improvements.

* *Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.*
** *Measured by Audio Spectrum Analyzer.*